3GPP TSG CT Plenary Meeting #28 **CP-050163**
01-03 June 2005, Quebec, CANADA

Source: **CT5 (OSA)**

Title: **14 Rel-6 CR 29.199-01 to 14**

Agenda item: **9.7 (OSA Enhancements [OSA3])**

Document for: **APPROVAL**

Doc-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Doc-2nd-Level	Workitem
CP-050163	29.199-01	0003	-	Rel-6	Optionals for Part 1	F	6.1.0	C5-050271	OSA3
CP-050163	29.199-02	0001	-	Rel-6	Optionals for Part 2	F	6.0.0	C5-050272	OSA3
CP-050163	29.199-03	0003	-	Rel-6	Optionals for Part 3	F	6.0.0	C5-050273	OSA3
CP-050163	29.199-04	0005	-	Rel-6	Optionals for Part 4	F	6.2.0	C5-050274	OSA3
CP-050163	29.199-05	0004	-	Rel-6	Optionals for Part 5	F	6.2.0	C5-050275	OSA3
CP-050163	29.199-06	0003	-	Rel-6	Optionals for Part 6	F	6.0.0	C5-050276	OSA3
CP-050163	29.199-07	0002	-	Rel-6	Optionals for Part 7	F	6.0.0	C5-050277	OSA3
CP-050163	29.199-08	0001	-	Rel-6	Optionals for Part 8	F	6.0.0	C5-050278	OSA3
CP-050163	29.199-09	0001	-	Rel-6	Optionals for Part 9	F	6.1.0	C5-050279	OSA3
CP-050163	29.199-10	0001	-	Rel-6	Optionals for Part 10	F	6.1.0	C5-050280	OSA3
CP-050163	29.199-11	0001	-	Rel-6	Optionals for Part 11	F	6.0.0	C5-050281	OSA3
CP-050163	29.199-12	0001	-	Rel-6	Optionals for Part 12	F	6.0.0	C5-050282	OSA3
CP-050163	29.199-13	0001	-	Rel-6	Optionals for Part 13	F	6.0.0	C5-050283	OSA3
CP-050163	29.199-14	0004	-	Rel-6	Optionals for Part 14	F	6.1.0	C5-050284	OSA3

Joint-Working-Group (Parlay, ETSI Project OSA, 3GPP CT5) **C5-050271**
Meeting #31, Osaka, JAPAN, 09-13 May 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **29.199-01** **CR** **0003** ⌘ **rev** **-** ⌘ Current version: **6.1.0** ⌘

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Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Optionals for Part 1
Source:	⌘	CT5 IBM (Joe McIntyre)
Work item code:	⌘	OSA3
Date:	⌘	05/05/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
Ph2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*
Rel-7 *(Release 7)*

Reason for change:	⌘	Presently readers must look in multiple places (descriptive text, field description and/or message part description) to determine if a field or message part is optional or not. This change provides a consistent manner to specify this information which will improve readability of current specifications and future input contributions. In addition, the corresponding WSDL is updated to represent this information (using minOccurs/maxOccurs attributes), which is required to correctly reflect specification intent and ensure interoperability.
Summary of change:	⌘	Add “Optional” column with “Yes” or “No” values to field types and message parts. Add minOccurs/maxOccurs attributes to WSDL for optional elements.
Consequences if not approved:	⌘	How optional elements are represented remains inconsistent and prone to error or misinterpretation. WSDL does not include attributes for optional elements, reducing fidelity with specifications and interoperability.

Clauses affected:	⌘	8.2, 8.3, 8.4, 8.5, 10.1, 10.2			
		Y	**N**		
Other specs	⌘	**X**		Other core specifications	⌘ 29.199-02, 29.199-03, 29.199-04, 29.199-05, 29.199-06, 29.199-07, 29.199-08, 29.199-09, 29.199-10, 29.199-11, 29.199-12, 29.199-13, 29.199-14
affected:			**X**	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

Change in Clause 8

8 XML Schema data type definition

8.1 TimeMetrics enumeration

List of time metric values.

Enumeration	Description
Millisecond	Millisecond
Second	Second
Minute	Minute
Hour	Hour
Day	Day
Week	Week
Month	Month
Year	Year

8.2 TimeMetric structure

For services that provide service based on a time interval or duration or similar metric, this type is used to specify the time metric.

Element name	Element type	Optional	Description
Metric	TimeMetrics	No	Metric to use for time measurement
Units	xsd:int	No	Number of units of TimeMetrics

8.3 ChargingInformation structure

For services that include charging as an inline message part, the charging information is provided in this data structure.

Element name	Element type	Optional	Description
Description	xsd:string	No	Description text to be use for information and billing text
Currency	xsd:string	Yes	Currency identifier as defined in ISO 4217 [12] ~~(optional)~~
Amount	xsd:decimal	Yes	Amount to be charged ~~(optional)~~
Code	xsd:string	Yes	Charging code, referencing a contract under which the charge is applied ~~(optional)~~

8.4 ServiceError structure

Some services that process requests for both single addresses and group of addresses return a fault message for the single request, and a data item for the group response. This data structure allows the data item returned for a group response to contain the same level of information as the fault message response.

Element name	Element type	Optional	Description
MessageId	xsd:string	No	Message identifier (take from fault definitions)
Text	xsd:string	No	Message text, with replacement variables marked with %#
Variables	xsd:string [0..unbounded]	Yes	Variables to substitute into Text string

8.5 SimpleReference structure

For those services that require a reference to a Web Service, the information required to create the endpoint information is contained in this type.

Element name	Element type	Optional	Description
Endpoint	xsd:anyURI	No	Endpoint address
InterfaceName	xsd:string	No	Name of interface
Correlator	xsd:string	No	Correlation information

End of change in Clause 8

Change in Clause 10.1

10.1 ServiceException

Faults related to the operation of the service, not including policy related faults, result in the return of a ServiceException message. Service exception messages use the reserved message identifier 'SVC', and are defined with numbers from 0001 to 0999, with numbers 0001 to 0199 reserved for common exceptions and 0200 to 0999 for Parlay X Web Services specification use. Numbers from '1000' to '9999' may be used by third parties.

Element name	Element type	Optional	Description
MessageId	xsd:string	No	Message identifier, with prefix SVC
Text	xsd:string	No	Message text, with replacement variables marked with %#
Variables	xsd:string [0..unbounded]	Yes	Variables to substitute into Text string

End of change in Clause 10.1

Change in Clause 10.2

10.2 PolicyException

Faults related to policies associated with the service, result in the return of a PolicyException message. Policy exception messages use the reserved message identifier 'POL', and are defined with numbers from 0001 to 0999, with numbers 0001 to 0199 reserved for common exceptions and 0200 to 0999 for Parlay X Web Services specification use. Numbers from '1000' to '9999' may be used by third parties.

Element name	Element type	Optional	Description
MessageId	xsd:string	No	Message identifier, with prefix POL
Text	xsd:string	No	Message text, with replacement variables marked with %#
Variables	xsd:string [0..unbounded]	Yes	Variables to substitute into Text string

End of change in Clause 10.2

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Mar 2005	CN_27	NP-050021	002	--	Introduce cross- reference to ETSI TISPAN TRs, that define an informative mapping of the Parlay X Web Services to the Parlay/OSA APIs	6.0.0	6.1.0

Joint-Working-Group (Parlay, ETSI Project OSA, 3GPP CT5) **C5-050272**
Meeting #31, Osaka, JAPAN, 09-13 May 2005

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CHANGE REQUEST

⌘ **29.199-02** **CR** **0001** ⌘ **rev** **-** ⌘ Current version: **6.0.0** ⌘

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Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Optionals for Part 2
Source:	⌘	CT5 IBM (Joe McIntyre)
Work item code:	⌘	OSA3
Date:	⌘	05/05/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

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Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*
Rel-7 *(Release 7)*

Reason for change:	⌘	Presently readers must look in multiple places (descriptive text, field description and/or message part description) to determine if a field or message part is optional or not. This change provides a consistent manner to specify this information which will improve readability of current specifications and future input contributions. In addition, the corresponding WSDL is updated to represent this information (using minOccurs/maxOccurs attributes), which is required to correctly reflect specification intent and ensure interoperability.
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Consequences if not approved:	⌘	How optional elements are represented remains inconsistent and prone to error or misinterpretation. WSDL does not include attributes for optional elements, reducing fidelity with specifications and interoperability.

Clauses affected:	⌘	7.3, 8			
		Y	**N**		
Other specs affected:	⌘	**X**		Other core specifications	⌘ 29.199-01, 29.199-03, 29.199-04, 29.199-05, 29.199-06, 29.199-07, 29.199-08, 29.199-09, 29.199-10, 29.199-11, 29.199-12, 29.199-13, 29.199-14
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

Change in Clause 7.3

7.3 CallInformation Structure

Call information for this call.

Element name	Element type	Optional	Description
CallStatus	CallStatus	No	It indicates the current status of the call (see possible values below)
StartTime	xsd:dateTime	Yes	When applicable (callStatus <> CallInitial), it indicates the time of the beginning of the call
Duration	xsd:int	Yes	When applicable (callStatus = CallTerminated), it indicates the duration of the call expressed in seconds
TerminationCause	CallTerminationCause	Yes	When applicable (callStatus = CallTerminated), it indicates the cause of the termination of the call

End of change in Clause 7.3

Change in Clause 8

8 Web Service interface definition

8.1 Interface: ThirdPartyCall

This interface provides the ability to setup, end and determine the status of a call.

8.1.1 Operation: MakeCall

The invocation of **MakeCall** requests to set-up a voice call between two addresses, **CallingParty** and **CalledParty**, provided that the invoking application is allowed to connect them. Optionally the application can also indicate the charging information (**Charging**).

By invoking this operation the application may monitor the status of the requested call. The returned parameter, **CallIdentifier**, can be used to identify the call. In order to receive the information on call status the application has to explicitly invoke **GetCallInformation**.

8.1.1.1 Input message: MakeCallRequest

Part name	Part type	Optional	Description
CallingParty	xsd:anyURI	No	It contains the address of the first user involved in the call
CalledParty	xsd:anyURI	No	It contains the address of the second user involved in the call
Charging	common:ChargingInformation	Yes	Charge to apply to the call ~~(optional)~~

8.1.1.2 Output message : MakeCallResponse

Part name	Part type	Optional	Description
CallIdentifier	xsd:string	No	It identifies a specific call request

8.1.1.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.
- POL0008 - Charging not supported.

8.1.2 Operation: GetCallInformation

The invocation of **GetCallInformation** retrieves the current status, **CallInformation**, of the call identified by **CallIdentifier**. This method can be invoked multiple times by the application even if the call has already ended. However, after the call has ended, status information will be available only for a limited period of time that is specified in the service policy 'StatusRetentionTime'.

8.1.2.1 Input message: GetCallInformationRequest

Part name	Part type	Optional	Description
CallIdentifier	String	No	It identifies a specific call request

8.1.2.2 Output message : GetCallInformationResponse

Part name	Part type	Optional	Description
CallInformation	CallInformation	No	It identifies the status of the call

8.1.2.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.1.3 Operation: EndCall

The invocation of **EndCall** terminates the call identified by **CallIdentifier**. If the call is still in the initial state this method has the same effect as the **CancelCallRequest** method.

8.1.3.1 Input message: EndCallRequest

Part name	Part type	Optional	Description
CallIdentifier	String	No	It identifies a specific call request

8.1.3.2 Output message: EndCallResponse

Part name	Part type	Optional	Description
None			

8.1.3.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0261 - Call already terminated.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.1.4 Operation: CancelCall

The invocation of **CancelCallRequest** cancels the previously requested call identified by **CallIdentifier**. Note that this method differs from the **EndCall** method since it only attempts to prevent the call from starting but it does not have any effect if the call has already started.

8.1.4.1 Input message: CancelCallRequest

Part name	Part type	Optional	Description
CallIdentifier	String	No	It identifies a specific call request

8.1.4.2 Output message: CancelCallResponse

Part name	Part type	Optional	Description
None			

8.1.4.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0260 - Call already connected.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

End of change in Clause 8

Annex A (normative): WSDL for Third Party Call

The document/literal WSDL representation of this interface specification is compliant to 3GPP TS 29.199-1 [6] and is contained in text files (contained in archive 29199-02-~~600~~610-doclit.zip) which accompanies the present document.

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Dec 2003	CN_21	NP-030552	--	--	Submitted to CN#22 for Information	1.0.0	
Jan 2004	--	--	--	--	Added The W3C WSDL representation of the APIs specified in the present document is contained in a set of files which accompany the present document: px0326rpcenc.zip px0326rpclit.zip	1.0.1	
Jun 2004	CN_24	NP-040274	--	--	Split into multi-part specification. 29.199-0n, for n=1,2…9. Submitted to CN#24 for Information	1.0.3	
Sep 2004	CN_25	NP-040360	--	--	Draft v200 submitted to TSG CN#25 for Approval.	2.0.0	6.0.0

CHANGE REQUEST

⌘ **29.199-03** **CR** **0003** ⌘ **rev** **-** ⌘ Current version: **6.0.0** ⌘

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Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Optionals for Part 3
Source:	⌘	CT5 IBM (Joe McIntyre)
Work item code:	⌘	OSA3
Date:	⌘	05/05/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

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R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)
Rel-7 (Release 7)

Reason for change:	⌘	Presently readers must look in multiple places (descriptive text, field description and/or message part description) to determine if a field or message part is optional or not. This change provides a consistent manner to specify this information which will improve readability of current specifications and future input contributions. In addition, the corresponding WSDL is updated to represent this information (using minOccurs/maxOccurs attributes), which is required to correctly reflect specification intent and ensure interoperability.
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Clauses affected:	⌘	7.2, 8			
		Y	**N**		
Other specs	⌘	**X**		Other core specifications	⌘ 29.199-01, 29.199-02, 29.199-04, 29.199-05, 29.199-06, 29.199-07, 29.199-08, 29.199-09, 29.199-10, 29.199-11, 29.199-12, 29.199-13, 29.199-14
affected:			**X**	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

Change in Clause 7

7 XML Schema data type definition

7.1 ActionValues enumeration

The **ActionValues** data type is an enumeration with the following values.

Enumeration	Description
Route	Request to (re-)route the call to the address indicated with routingAddress.
Continue	Request to continue the call without any changes. This will result in normal handling of the event in the network.
EndCall	Request to end the call. This will result in termination of the call. The callingParty will receive a tone or announcement.

7.2 Action structure

The **Action** data type is a structure containing the following parameters.

Element name	Element type	Optional	Description
ActionToPerform	ActionValues	No	Indicates the action as described below
RoutingAddress	xsd:anyURI	No	The address to be used in case the action indicates 'Route'
Charging	common:ChargingInformation	Yes	Charge to apply to this call

End of change in Clause 7

Change in Clause 8

8 Web Service interface definition

8.1 Interface: CallDirection

This subclause describes an initial set of capabilities in terms of message invocations, parameters and data types. The message-based invocations are:

- handleBusy.
- handleNotReachable.
- handleNoAnswer.
- handleCalledNumber.

These messages are initiated by the Call Notification Web Service (running in a Parlay X Gateway) and invoke an application Web Service(s), as a result of activity in the network. The result of the invocation of a handle<Event> operation is used as an indication on how the call should be handled in the network. The application can not keep control over the call after handling the event; every event handling is a separate occurrence.

Note that because the results of the invocations of the application Web Service(s) determine call handling in the network, the names of the methods are prefixed with 'handle', rather than 'notify'. The prefix 'notify' would imply a more asynchronous behaviour, whereas 'handle' shows the synchronous nature of these invocations.

The criteria for which the application Web Service(s) should be invoked, such as type of events (busy, answer, etc.), a URI to the Web Service and triggered addresses should be provisioned by the operator in an off-line process.

8.1.1 Operation: HandleBusy

The invocation of **handleBusy** requests the application to inform the gateway how to handle the call between two addresses, the **callingParty** and the **calledParty**, where the **calledParty** is busy when the call is received. The application returns the **action**, which directs the gateway to perform one of the following actions:

- "Continue", resulting in normal handling of the busy event in the network, e.g. playing of a busy tone to the **callingParty.**
- "EndCall", resulting in the call being terminated; the exact tone or announcement that will be played to the **callingParty** is operator-specific.
- "Route", resulting in the call being re-routed to a **calledParty** specified by the application.

Optionally, in the **action** parameter, the application can also indicate the charging information.

8.1.1.1 Input message: handleBusyRequest

Part name	Part type	Optional	Description
CallingParty	xsd:anyURI	No	It contains the address of the caller
CalledParty	xsd:anyURI	No	It contains the address of the called party. This party is busy

8.1.1.2 Output message: handleBusyResponse

Part name	Part type	Optional	Description
Action	Action	No	It indicates the action to be performed by the gateway

8.1.1.3 Referenced faults

None.

8.1.2 Operation: HandleNotReachable

The invocation of **handleNotReachable** requests the application to inform the gateway how to handle the call between two addresses, the **callingParty** and the **calledParty**, where the **calledParty** is not reachable when the call is received. The application returns the **action**, which directs the gateway to perform one of the following actions:

- "Continue", resulting in normal handling of the 'not reachable' event in the network, e.g. playing of a busy tone to the **callingParty.**
- "EndCall", resulting in the call being terminated; the exact tone or announcement that will be played to the **callingParty** is operator-specific.
- "Route", resulting in the call being re-routed to a **calledParty** specified by the application.

Optionally, in the **action** parameter, the application can also indicate the charging information.

8.1.2.1 Input message: handleNotReachableRequest

Part name	Part type	Optional	Description
CallingParty	xsd:anyURI	No	It contains the address of the caller
CalledParty	xsd:anyURI	No	It contains the address of the called party. This party is not reachable

8.1.2.2 Output message: handleNotReachableResponse

Part name	Part type	Optional	Description
Action	Action	No	It indicates the action to be performed by the gateway

8.1.2.3 Referenced faults

None.

8.1.3 Operation: HandleNoAnswer

The invocation of **handleNoAnswer** requests the application to inform the gateway how to handle the call between two addresses, the **callingParty** and the **calledParty**, where the **calledParty** does not answer the received call. The application returns the **action**, which directs the gateway to perform one of the following actions:

- "Continue", resulting in normal handling of the 'no answer' event in the network, e.g. playing of a busy tone to the **callingParty.**
- "EndCall", resulting in the call being terminated; the exact tone or announcement that will be played to the **callingParty** is operator-specific.
- "Route", resulting in the call being re-routed to a **calledParty** specified by the application.

Optionally, in the **action** parameter, the application can also indicate the charging information.

8.1.3.1 Input message: handleNoAnswerRequest

Part name	Part type	Optional	Description
CallingParty	xsd:anyURI	No	It contains the address of the caller
CalledParty	xsd:anyURI	No	It contains the address of the called party. This party does not answer the call

8.1.3.2 Output message: handleNoAnswerResponse

Part name	Part type	Optional	Description
Action	Action	No	It indicates the action to be performed by the gateway

8.1.3.3 Referenced faults

None.

8.1.4 Operation: HandleCalledNumber

The invocation of **handleCalledNumber** requests the application to inform the gateway how to handle the call between two addresses, the **callingParty** and the **calledParty**. The method is invoked when the **callingParty** tries to call the **calledParty**, but before the network routes the call to the **calledParty**. For example, the **calledParty** does not have to refer to a real end user, i.e., it could be a service number. The application returns the **action**, which directs the gateway to perform one of the following actions:

- "Continue", resulting in normal handling in the network, i.e. the call will be routed to the **calledParty** number, as originally dialled.
- "EndCall", resulting in the call being terminated; the exact tone or announcement that will be played to the **callingParty** is operator-specific.
- "Route", resulting in the call being re-routed to a **calledParty** specified by the application.

Optionally, in the **action** parameter, the application can also indicate the charging information.

8.1.4.1 Input message: handleCalledNumberRequest

Part name	Part type	Optional	Description
CallingParty	xsd:anyURI	No	It contains the address of the caller
CalledParty	xsd:anyURI	No	It contains the address of the called party

8.1.4.2 Output message: handleCalledNumberResponse

Part name	Part type	Optional	Description
Action	Action	No	It indicates the action to be performed by the gateway

8.1.4.3 Referenced faults

None.

8.2 Interface: CallNotification

When call events occur in the network, the application may be notified of these events. The application does not have the ability to influence the call, as call processing continues.

Notifications are provided for call attempt, busy, not reachable and no answer events.

8.2.1 Operation: NotifyBusy

A busy notification informs the application that a call between two parties was attempted, but the called party was busy.

8.2.1.1 Input message: NotifyBusyRequest

Part name	Part type	Optional	Description
CallingParty	xsd:anyURI	No	It contains the address of the caller
CalledParty	xsd:anyURI	No	It contains the address of the called party. This party is busy

8.2.1.2 Output message: NotifyBusyResponse

Part name	Part type	Optional	Description
None		No	

8.2.1.3 Referenced faults

None.

8.2.2 Operation: NotifyNotReachable

A not reachable notification informs the application that a call between two parties was attempted, but the called party was not reachable.

8.2.2.1 Input message: NotifyNotReachableRequest

Part name	Part type	Optional	Description
CallingParty	xsd:anyURI	No	It contains the address of the caller
CalledParty	xsd:anyURI	No	It contains the address of the called party. This party is not reachable

8.2.2.2 Output message: NotifyNotReachableResponse

Part name	Part type	Optional	Description
None		No	

8.2.2.3 Referenced faults

None.

8.2.3 Operation: NotifyNoAnswer

A no answer notification informs the application that a call between two parties was attempted, but the called party did not answer.

8.2.3.1 Input message: NotifyNoAnswerRequest

Part name	Part type	Optional	Description
CallingParty	xsd:anyURI	No	It contains the address of the caller
CalledParty	xsd:anyURI	No	It contains the address of the called party. This party did not answer

8.2.3.2 Output message: NotifyNoAnswerResponse

Part name	Part type	Optional	Description
None		No	

8.2.3.3 Referenced faults

None.

8.2.4 Operation: NotifyCalledNumber

A called number notification informs the application that a call between two parties is being attempted.

8.2.4.1 Input message: NotifyCalledNumberRequest

Part name	Part type	Optional	Description
CallingParty	xsd:anyURI	No	It contains the address of the caller
CalledParty	xsd:anyURI	No	It contains the address of the called party

8.2.4.2 Output message: NotifyCalledNumberResponse

Part name	Part type	Optional	Description
None		No	

8.2.4.3 Referenced faults

None.

End of change in Clause 8

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Dec 2003	CN_21	NP-030552	--	--	Submitted to CN#22 for Information	1.0.0	
Jan 2004	--	--	--	--	Added The W3C WSDL representation of the APIs specified in the present document is contained in a set of files which accompany the present document: px0326rpcenc.zip px0326rpclit.zip	1.0.1	
Jun 2004	CN_24	NP-040274	--	--	Split into multi-part specification. 29.199-0n, for n=1,2…9. Submitted to CN#24 for Information	1.0.3	
Sep 2004	CN_25	NP-040360	--	--	Draft v200 submitted to TSG CN#25 for Approval.	2.0.0	6.0.0

Joint-Working-Group (Parlay, ETSI Project OSA, 3GPP CT5) **C5-050274**
Meeting #31, Osaka, JAPAN, 09-13 May 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **29.199-04** **CR** **0005** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Optionals for Part 4
Source:	⌘	CT5 IBM (Joe McIntyre)
Work item code:	⌘	OSA3
Date:	⌘	05/05/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

Ph2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*
Rel-7	*(Release 7)*

Reason for change:	⌘	Presently readers must look in multiple places (descriptive text, field description and/or message part description) to determine if a field or message part is optional or not. This change provides a consistent manner to specify this information which will improve readability of current specifications and future input contributions. In addition, the corresponding WSDL is updated to represent this information (using minOccurs/maxOccurs attributes), which is required to correctly reflect specification intent and ensure interoperability.
Summary of change:	⌘	Add “Optional” column with “Yes” or “No” values to field types and message parts. Add minOccurs/maxOccurs attributes to WSDL for optional elements.
Consequences if not approved:	⌘	How optional elements are represented remains inconsistent and prone to error or misinterpretation. WSDL does not include attributes for optional elements, reducing fidelity with specifications and interoperability.

Clauses affected:	⌘	7.3, 7.4, 8			
		Y	**N**		
Other specs	⌘	**X**		Other core specifications	⌘ 29.199-01, 29.199-02, 29.199-03, 29.199-05, 29.199-06, 29.199-07, 29.199-08, 29.199-09, 29.199-10, 29.199-11, 29.199-12, 29.199-13, 29.199-14
affected:			**X**	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

Change in Clause 7

7 XML Schema data type definition

7.1 DeliveryStatus enumeration

List of delivery status values.

Enumeration	Description
DeliveredToNetwork	Successful delivery to network
DeliveryUncertain	Delivery status unknown: e.g. because it was handed off to another network.
DeliveryImpossible	Unsuccessful delivery; the message could not be delivered before it expired.
MessageWaiting	The message is still queued for delivery. This is a temporary state, pending transition to one of the preceding states.
DeliveredToTerminal	Successful delivered to Terminal
DeliveryNotificationNotSupported	Unable to provide delivery receipt notification. NotifySMSDeliveryReceipt function will provide “DeliveryNotificationNotSupported” to indicate that delivery receipt for the specified address in a SendSMSRequest is not supported.

7.2 SmsFormat enumeration

List of SMS format values.

Enumeration	Description
Ems	Enhanced Messaging Service, standardized in 3GPP TS 23.040 [7], which defines a logo/ringtone format
SmartMessaging™	Defines a logo/ringtone format

7.3 DeliveryInformation structure

Delivery status information.

Element name	Element type	Optional	Description
Address	xsd:anyURI	No	It indicates the destination address to which the notification is related.
DeliveryStatus	DeliveryStatus	No	Indicates the delivery result for destinationAddress. Possible values are: • 'Delivered'; • 'DeliveryUncertain'; • 'DeliveryImpossible'.

7.4 SmsMessage structure

SMS message information. The SenderAddress is the address from which the message was actually sent, which may or may not match the senderName value provided in the SendSms operation.

Element name	Element type	Optional	Description
Message	xsd:string	No	Text received in SMS
SenderAddress	xsd:anyURI	No	It indicates address sending the SMS
SmsServiceActivation Number	xsd:anyURI	No	Number associated with the invoked Message service, i.e. the destination address used to send the message

End of change in Clause 7

Change in Clause 8

8 Web Service interface definition

8.1 Interface: SendSms

8.1.1 Operation: SendSms

The invocation of **sendSms** requests to send an SMS, specified by the String **Message** to the specified address (or address set), specified by **Addresses**. Optionally the application can also indicate the sender name (**SenderName**), i.e. the string that is displayed on the user's terminal as the originator of the message, the charging information and a ReceiptRequest. The ReceiptRequest which is a SimpleReference structure indicates the application endpoint, interface used for notification of delivery receipt and a correlator that uniquely identifies the sending request. By invoking this operation with the optional ReceiptRequest parameter the application requires to receive the notification of the status of the SMS delivery.

If Notification mechanism is not supported by a network a fault (SVC0283) will be returned to the application and the message will not be sent to the addresses specified. Notification to the application is done by invoking the **notifiySMSDeliveryReceipt** operation at the endpoint specified in ReceiptRequest.

The application can also explicitly invoke the **getSmsDeliveryStatus** using the **RequestIdentifier** returned by the **sendSMS** invocation to get the delivery status.

Addresses may include group URIs as defined in the Address List Management specification. If groups are not supported, a PolicyException (POL0006) will be returned to the application.

For GSM systems, if **Message** contains characters not in the GSM 7-bit character set, the SMS is sent as a Unicode SMS.

If **Message** is longer than the maximum supported length (e.g. for GSM, 160 GSM 7-bit characters or 70 Unicode characters), the message will be sent as several concatenated short messages.

The correlator provided in the ReceiptRequest must be unique for this Web Service and application at the time the notification is initiated, otherwise a ServiceException (SVC0005) will be returned to the application.

8.1.1.1 Input message: SendSmsRequest

Part name	Part type	Optional	Description
Addresses	xsd:anyURI [1~~0~~..unbounded]	No	Addresses to which the SMS will be sent
SenderName	xsd:string	Yes	If present, it indicates the SMS sender name, i.e. the string that is displayed on the user's terminal as the originator of the message
Charging	common:ChargingInformation	Yes	Charge to apply to this message ~~(optional)~~
Message	xsd:string	No	Text to be sent in SMS
ReceiptRequest	common:SimpleReference	Yes	It defines the application endpoint, interfaceName and correlator that will be used to notify the application when the message has been delivered to terminal or if delivery is impossible~~(Optional)~~.

8.1.1.2 Output message : SendSmsResponse

Part name	Part type	Optional	Description
RequestIdentifier	xsd:string	No	It identifies a specific SMS delivery request

8.1.1.3 Referenced faults

ServiceException from [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0004 - No valid addresses.
- SVC0006 - Invalid group.
- SVC0280 - Message too long.
- SVC0283 – Delivery Receipt Notification not supported

PolicyException from [6]:

- POL0001 - Policy error.
- POL0006 - Groups not allowed.
- POL0007 - Nested groups not allowed.
- POL0008 - Charging not allowed.

8.1.2 Operation: SendSmsLogo

The invocation of **sendSmsLogo** requests to send an SMS logo, specified by the byte array **image** to the specified address (or address set), specified by **destinationAddressSet**. Optionally the application can also indicate the sender name (**senderName**), i.e. the string that is displayed on the user's terminal as the originator of the message, the charging information (**charging**) and a ReceiptRequest. The **receiptRequest** which is a SimpleReference structure indicates the application endpoint, interface used for notification of delivery receipt and a correlator that uniquely identifies the sending request. By invoking this operation with the optional **receiptRequest** parameter the application requires to receive the notification of the status of the SMS delivery.

If Notification mechanism is not supported by a network a serviceexception(SVC0283) will be returned to the application and the message will not be sent to the addresses specified. Notification to the application is done by invoking the **notifiySMSDeliveryReceipt** operation at the endpoint specified in ReceiptRequest.

The application can also explicitly invoke the **getSmsDeliveryStatus** using the **requestIdentifier** returned by the **sendSMSLogo** invocation to get the delivery status.

Addresses may include group URIs as defined in the Address List Management specification. If groups are not supported, a PolicyException (POL0006) will be returned to the application.

The correlator provided in the ReceiptRequest must be unique for this Web Service and application at the time the notification is initiated, otherwise a ServiceException (SVC0005) will be returned to the application.

8.1.2.1 Input message: SendSmsLogoRequest

Part name	Part type	Optional	Description
Addresses	xsd:anyURI [1~~0~~..unbounded]	No	Addresses to which the SMS logo will be sent
SenderName	xsd:string	Yes	SMS sender name, i.e. the string that is displayed on the user's terminal as the originator of the message ~~(optional)~~
Charging	common:ChargingInformation	Yes	Charge to apply to this message ~~(optional)~~
Image	xsd:base64Binary	No	The image in jpeg, gif or png format. The image will be scaled to the proper format
SmsFormat	SmsFormat	No	Possible values are: 'Ems' or 'SmartMessaging'
ReceiptRequest	common:SimpleReference	Yes	It defines the application endpoint, interfaceName and correlator that will be used to notify the application when the message has been delivered to terminal or if delivery is impossible

8.1.2.2 Output message: SendSmsLogoResponse

Part name	Part type	Optional	Description
requestIdentifier	String	No	It identifies a specific SMS delivery request

8.1.2.3 Referenced faults

ServiceException from [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0004 - No valid addresses.
- SVC0006 - Invalid group.
- SVC0281 - Unrecognized data format.
- SVC0283 – Delivery Receipt Notification not supported

PolicyException from [6]:

- POL0001 - Policy error.
- POL0006 - Groups not allowed.
- POL0007 - Nested groups not allowed.
- POL0008 - Charging not allowed.

8.1.3 Operation: SendSmsRingtone

The invocation of **sendSmsRingtone** requests to send an SMS ringtone, specified by the String **ringtone** (in RTX format) to the specified addresses, specified by **Addresses**. Optionally the application can also indicate the sender name (**senderName**) i.e. the string that is displayed on the user's terminal as the originator of the message, the charging information (**charging**) and a **receiptRequest**. The **receiptRequest** which is a SimpleReference structure indicates the application endpoint, interface used for notification of delivery receipt and a correlator that uniquely identifies the sending request. By invoking this operation with the optional **receiptRequest** parameter the application requires to receive the notification of the status of the SMS delivery.

If Notification mechanism is not supported by a network a fault (SVC0283) will be returned to the application and the message will not be sent to the addresses specified. Notification to the application is done by invoking the **notifiySMSDeliveryReceipt** operation at the endpoint specified in ReceiptRequest.

The application can also explicitly invoke the **getSmsDeliveryStatus** using the **requestIdentifier** returned by the **sendSMSRingTone** invocation to get delivery status..

Addresses may include group URIs as defined in the Address List Management specification. If groups are not supported, a PolicyException (POL0006) will be returned to the application.

The correlator provided in the ReceiptRequest must be unique for this Web Service and application at the time the notification is initiated, otherwise a ServiceException (SVC0005) will be returned to the application.

Depending on the length of the ringtone, it may be sent as several concatenated short messages.

NOTE: On the RTX Ringtone Specification : An RTX file is a text file, containing the ringtone name, a control subclause and a subclause containing a comma separated sequence of ring tone commands.

8.1.3.1 Input message: SendSmsRingtoneRequest

Part name	Part type	Optional	Description
Addresses	xsd:anyURI [1~~0~~..unbounded]	No	Addresses to which the SMS logo will be sent
SenderName	xsd:string	Yes	SMS sender name, i.e. the string that is displayed on the user's terminal as the originator of the message ~~(optional)~~
Charging	common:ChargingInformation	Yes	Charge to apply to this message ~~(optional)~~
Ringtone	xsd:string	No	The ringtone in RTX format (see note above). (http://www.logomanager.co.uk/help/Edit/RTX.html)
SmsFormat	SmsFormat	No	Possible values are: 'Ems' or 'SmartMessaging'
ReceiptRequest	common:SimpleReference	Yes	It defines the application endpoint, interfaceName and correlator that will be used to notify the application when the message has been delivered to terminal or if delivery is impossible

8.1.3.2 Output message: SendSmsRingtoneResponse

Part name	Part type	Optional	Description
RequestIdentifier	xsd:string	No	It identifies a specific SMS delivery request

8.1.3.3 Referenced faults

ServiceException from [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0004 - No valid addresses.
- SVC0006 - Invalid group.
- SVC0281 - Unrecognized data format.
- SVC0283 – Delivery Receipt Notification not supported

PolicyException from [6]:

- POL0001 - Policy error.
- POL0006 - Groups not allowed.
- POL0007 - Nested groups not allowed.
- POL0008 - Charging not allowed.

8.1.4 Operation: GetSmsDeliveryStatus

The invocation of **getSmsDeliveryStatus** requests the status of a previous SMS delivery request identified by **requestIdentifier**. The information on the status is returned in **deliveryStatus**, which is an array of status related to the request identified by **requestIdentifier**. The status is identified by a couplet indicating a user address and the associated delivery status. This method can be invoked multiple times by the application even if the status has reached a final value. However, after the status has reached a final value, status information will be available only for a limited period of time that should be specified in an off-line configuration step. The following four different SMS delivery status have been identified:

- 'DeliveredToNetwork': in case of concatenated messages, only when all the SMS-parts have been successfully delivered to the network.
- 'DeliveryUncertain': e.g. because it was handed off to another network.
- 'DeliveryImpossible': unsuccessful delivery; the message could not be delivered before it expired.

- 'MessageWaiting': the message is still queued for delivery.
- 'DeliveredToTerminal': in case of concatenated messages, only when all the SMS-parts have been successfully delivered to the terminal.

8.1.4.1 Input message: GetSmsDeliveryStatusRequest

Part name	Part type	Optional	Description
RequestIdentifier	xsd:string	No	It identifies a specific SMS delivery request

8.1.4.2 Output message : GetSmsDeliveryStatusResponse

Part name	Part type	Optional	Description
DeliveryStatus	DeliveryInformation [0..unbounded]	Yes	It lists the variations on the delivery status of the SMS

8.1.4.3 Referenced faults

ServiceException from [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.

PolicyException from [6]:

- POL0001 - Policy error.

8.2 Interface: SmsNotification

SmsNotification is the application side notification interface to which short messages are delivered.

8.2.1 Operation: NotifySmsReception

The notification is used to send a short message to the application. The notification will occur only if the SMS fulfils the criteria specified when starting the SMS notification.

The **notifySmsReception** method must be implemented by a Web Service at the ***application side***. It will be invoked by the Parlay X server to notify the application of the reception of an SMS. The notification will occur if and only if the SMS received fulfils the criteria specified in a provisioning step, identified by the **correlator**. The criteria must at least include an **smsServiceActivationNumber**, i.e. the SMS destination address that can be "monitored" by the application. The parameter **senderAddress** contains the address of the sender. The application can apply the appropriate service logic to process the SMS.

8.2.1.1 Input message: NotifySmsReceptionRequest

Part name	Part type	Optional	Description
correlator	xsd:string	No	Correlator provided in request to set up this notification
Message	SmsMessage	No	Message received

8.2.1.2 Output message : NotifySmsReceptionResponse

Part name	Part type	Optional	Description
None			

8.2.1.3 Referenced faults

None.

8.2.2 Operation: NotifySmsDeliveryReceipt

The **notifySmsDeliveryReceipt** method must be implemented by a Web Service at the ***application side*** if it requires notification of SMSdelivery receipt. It will be invoked by the Parlay X server to notify the application when a SMS sent by an application has been delivered to the terminal of the recipient or if delivery is impossible. The notification will occur if and only if the status of the sent SMS is 'DeliveredToTerminal' or 'DeliveryImpossible' and the application has specified interest in notification when sending an SMS message by specifying the optional receiptRequest parameter. The correlator returned corresponds to the identifier specified by the application in the **receiptRequest** of the original **sendSMS** request

When a SMS message is sent to multiple addresses, the notification from the server will send notification for each terminal as and when a SMS message is delivered to a terminal.

The following three different SMS delivery status will be returned in NotifySMSDeliveryReceiptResponse:

- 'DeliveryImpossible': unsuccessful delivery; the message could not be delivered before it expired.
- 'DeliveredToTerminal': in case of concatenated messages, only when all the SMS-parts have been successfully delivered to the terminal.
- 'DeliveredNotificationNotSupported' - If notification is supported by the network but it does not support delivery receipt for one or more addresses specified in the **sendSMS** message. The service will send this status for those addresses.

8.2.2.1 Input message: NotifySmsDeliveryReceiptRequest

Part name	Part type	Optional	Description
Correlator	xsd:string	No	The identifier defining the original SendRequest. This correlator was passed by the application during the SendSMS request
DeliveryStatus	DeliveryInformation	No	It lists the variations on the delivery status of the SMS to a terminal

8.2.2.2 Output message: NotifySmsDeliveryReceiptResponse

Part name	Part type	Optional	Description
None			

8.2.2.3 Referenced faults

None.

8.3 Interface: ReceiveSms

8.3.1 Operation: GetReceivedSms

The invocation of **getReceivedSms** retrieves all the SMS messages received that fulfil the criteria identified by **registrationIdentifier**. The method returns only the list of SMS messages received since the previous invocation of the same method, i.e. each time the method is executed the messages returned are removed from the server. Moreover, each SMS message will be automatically removed from the server after a maximum time interval specified in an off-line configuration step.

The received SMS messages are returned in **receivedSms**. An SMS message is identified by a structure indicating the sender of the SMS message and the content.

8.3.1.1 Input message: GetReceivedSmsRequest

Part name	Part type	Optional	Description
RegistrationIdentifier	xsd:string	No	Identifies the off-line provisioning step that enables the application to receive notification of SMS reception according to specified criteria

8.3.1.2 Output message : GetReceivedSmsResponse

Part name	Part type	Optional	Description
ReceivedSms	SmsMessage [0..unbounded]	Yes	It lists the received SMS since last invocation

8.3.1.3 Referenced faults

ServiceException from [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.

PolicyException from [6]:

- POL0001 - Policy error.

8.4 Interface: SmsNotificationManager

The short message notification manager enables applications to set up and tear down notifications for short messages, online. The means to provision notifications offline are not specified here.

8.4.1 Operation: StartSmsNotification

Start notifications to the application for a given SMS Service activation number and criteria.

The SMS Service activation number is an Address Data item as defined in 3GPP TS 29.199-1 [6]. A Shortcode is an example of an Address Data item.

The correlator provided in the reference must be unique for the application Web Service at the time the notification is initiated, otherwise a ServiceException (SVC0005) will be returned to the application..

If specified, criteria will be used to filter messages that are to be delivered to an application. If criteria are not provided, or is an empty string, then all messages for the SmsServiceActivationNumber will be delivered to the application. The SmsServiceActivationNumber and criteria combination must be unique. If a criteria overlaps then SVC0008 will be returned to the application and the notification will not be set up. Note that the use of criteria will allow different notification endpoints to receive notifications for the same SmsServiceActivationNumber. The combination of SmsServiceActivationNumber and criteria must be unique, so that a notification will be delivered to only one notification endpoint. If no match is found, the message will not be delivered to the application.

8.4.1.1 Input message: StartSmsNotificationRequest

Part name	Part type	Optional	Description
Reference	common:SimpleReference	No	Notification endpoint definition
SmsServiceActivation Number	xsd:anyURI	No	the destination address to the short message
Criteria	xsd:string	Yes	~~Optional.~~ The text to match against to determine the application to receive the notification. This text is matched against the first word in the message, defined as the initial characters after discarding any leading whitspaceWhitespace and ending with a whitespaceWhitespace or end of message. The matching shall be case-insensitive.

8.4.1.2 Output message: StartSmsNotificationResponse

Part Name	Part Type	Optional	Description
none			

8.4.1.3 Referenced Faults

ServiceException from [6]

- SVC0001 – Service error
- SVC0002 – Invalid input value
- SVC0005 – Duplicate correlator
- SVC0008 – Overlapping Criteria

PolicyException from [6]

- POL0001 – Policy error

8.4.2 Operation: StopSmsNotification

The application may end a short message notification using this operation

8.4.2.1 Input message: StopSmsNotificationRequest

Part name	Part type	Optional	Description
Correlator	xsd:string	No	Correlator of request to end

8.4.2.2 Output message: StopSmsNotificationResponse

Part Name	Part Type	Optional	Description
None			

8.4.2.3 Referenced Faults

ServiceException from [6]

- SVC0001 – Service error

- SVC0002 – Invalid input value

PolicyException from [6]

- POL0001 – Policy error

End of change in Clause 8

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Dec 2003	CN_21	NP-030552	--	--	Submitted to CN#22 for Information	1.0.0	
Jan 2004	--	--	--	--	Added The W3C WSDL representation of the APIs specified in the present document is contained in a set of files which accompany the present document: px0326rpcenc.zip px0326rpclit.zip	1.0.1	
Jun 2004	CN_24	NP-040274	--	--	Split into multi-part specification. 29.199-0n, for n=1,2…9. Submitted to CN#24 for Information	1.0.3	
Sep 2004	CN_25	NP-040360	--	--	Draft v200 submitted to TSG CN#25 for Approval.	2.0.0	6.0.0
Dec 2004	CN_26	NP-040487	001	--	Add SmsNotificationManager interface to PXWS Short-Messaging	6.0.0	6.1.0
Dec 2004	CN_26	NP-040609	002	1	Add PXWS SMS Notification Delivery Reception	6.0.0	6.1.0
Mar 2005	CN_27	NP-050021	003	--	Correct criteria	6.1.0	6.2.0
Mar 2005	CN_27	NP-050021	004	--	Fix StopSMSNotification message part	6.1.0	6.2.0

Joint-Working-Group (Parlay, ETSI Project OSA, 3GPP CT5) **C5-050275**
Meeting #31, Osaka, JAPAN, 09-13 May 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **29.199-05** **CR** **0004** ⌘ **rev** **-** ⌘ Current version: **6.2.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Optionals for Part 5
Source:	⌘	CT5 IBM (Joe McIntyre)
Work item code:	⌘	OSA3
Date:	⌘	07/05/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

Ph2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*
Rel-7	*(Release 7)*

Reason for change:	⌘	Presently readers must look in multiple places (descriptive text, field description and/or message part description) to determine if a field or message part is optional or not. This change provides a consistent manner to specify this information which will improve readability of current specifications and future input contributions. In addition, the corresponding WSDL is updated to represent this information (using minOccurs/maxOccurs attributes), which is required to correctly reflect specification intent and ensure interoperability.
Summary of change:	⌘	Add “Optional” column with “Yes” or “No” values to field types and message parts. Add minOccurs/maxOccurs attributes to WSDL for optional elements.
Consequences if not approved:	⌘	How optional elements are represented remains inconsistent and prone to error or misinterpretation. WSDL does not include attributes for optional elements, reducing fidelity with specifications and interoperability.

Clauses affected:	⌘	7.3, 7.4, 7.5 8			
		Y	**N**		
Other specs affected:	⌘	**X**		Other core specifications	⌘ 29.199-01, 29.199-02, 29.199-03, 29.199-04, 29.199-06, 29.199-07, 29.199-08, 29.199-09, 29.199-10, 29.199-11, 29.199-12, 29.199-13, 29.199-14
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

Change in Clause 7

7 XML schema data type definition

7.1 DeliveryStatus enumeration

List of delivery status values.

Enumeration	Description
Delivered	Successful delivery.
DeliveryUncertain	Delivery status unknown: e.g. because it was handed off to another network.
DeliveryImpossible	Unsuccessful delivery; the message could not be delivered before it expired.
MessageWaiting	The message is still queued for delivery. This is a temporary state, pending transition to one of the preceding states.

7.2 MessagePriority enumeration

List of delivery priority values.

Enumeration	Description
Default	Default message priority
Low	Low message priority
Normal	Normal message priority
High	High message priority

7.3 DeliveryInformation structure

Delivery status information.

Element name	Element type	Optional	Description
address	xsd:anyURI	No	Address associated with the delivery status. The address field is coded as a URI.
deliveryStatus	DeliveryStatus	No	Parameter indicating the delivery status.

7.4 MessageReference structure

Message information.

Element name	Element type	Optional	Description
messageIdentifier	xsd:string	Yes	~~OPTIONAL:~~ If present, contains a reference to a message stored in the Parlay X gateway. If the message is pure text, this parameter is not present.
messageService ActivationNumber	xsd:string	No	Number associated with the invoked Message service, i.e. the destination address used by the terminal to send the message.
senderAddress	xsd:anyURI	No	Indicates message sender address.
subject	xsd:string	Yes	~~OPTIONAL:~~ If present, indicates the subject of the received message. This parameter will not be used for SMS services.
priority	MessagePriority	No	The priority of the message: default is Normal.
message	xsd:string	Yes	~~OPTIONAL:~~ If present, then the **messageIdentifier** is not present and this parameter contains the whole message. The type of the message is always pure ASCII text in this case. The message will not be stored in the Parlay X gateway.

7.5 MessageURI structure

Message location information.

Element name	Element type	Optional	Description
bodyText	xsd:string	Yes	Contains the message body if it is encoded as ASCII text.
fileReferences	xsd:anyURI [0..unbounded]	Yes	This is an array of URI references to all the attachments in the Multimedia message. These are URIs to different files, e.g. GIF pictures or pure text files.

End of change in Clause 7

Change in Clause 8

8 Web Service interface definition

8.1 Interface: SendMessage

Operations to send messages and check status on sent messages.

8.1.1 Operation: SendMessage

Request to send a Message to a set of destination addresses, returning a **requestIdentifier** to identify the message. The **requestIdentifier** can subsequently be used by the application to poll for the message status, i.e. using **getMessageDeliveryStatus** to see if the message has been delivered or not. The content is sent as a Attachment as specified in SOAP Messages with Attachments [7].

Addresses may include group URIs as defined in the Address List Management specification. If groups are not supported, a PolicyException (POL0006) will be returned to the application.

8.1.1.1 Input message: SendMessageRequest

Part name	Part type	Optional	Description
Addresses	xsd:anyURI [1~~0~~..unbounded]	No	Destination addresses for the Message.
SenderAddress	xsd:string	Yes	Message sender address. This parameter is not allowed for all 3rd party providers. Parlay X server needs to handle this according to a SLA for the specific application and its use can therefore result in a PolicyException. ~~(optional)~~
Subject	xsd:string	Yes	Message subject. If mapped to SMS this parameter will be used as the senderAddress, even if a separate senderAddress is provided. ~~(optional)~~
Priority	MessagePriority	Yes	Priority of the message. If not present, the network will assign a priority based on an operator policy. ~~(optional)~~
Charging	Common:ChargingInformation	Yes	Charging to apply to this message. ~~(optional)~~

NOTE: The input message may also contain attachments, with appropriate content as defined by SOAP Messages with Attachments [7].

8.1.1.2 Output message: SendMessageResponse

Part name	Part type	Optional	Description
RequestIdentifier	xsd:string	No	It is a correlation identifier that is used in a **getMessageDeliveryStatus** message invocation, i.e. to poll for the delivery status of all of the sent Messages.

8.1.1.3 Referenced faults

ServiceException from [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0004 - No valid addresses.
- SVC0006 - Invalid group.

PolicyException from [6]:

- POL0001 - Policy error.
- POL0006 - Groups not allowed.
- POL0007 - Nested groups not allowed.
- POL0008 - Charging not supported.

8.1.2 Operation: GetMessageDeliveryStatus

This is a poll method used by the application to retrieve delivery status for each message sent as a result of a previous **sendMessage** message invocation. The **requestIdentifier** parameter identifies this previous message invocation.

8.1.2.1 Input message: GetMessageDeliveryStatusRequest

Part name	Part type	Optional	Description
RequestIdentifier	xsd:string	No	Identifier related to the delivery status request.

8.1.2.2 Output message: GetMessageDeliveryStatusResponse

Part name	Part type	Optional	Description
DeliveryStatus	DeliveryInformation [0..unbounded]	Yes	It is an array of status of the messages that were previously sent. Each array element represents a sent message: i.e. its destination address and its delivery status.

8.1.2.3 Referenced faults

ServiceException from [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.

PolicyException from [6]:

- POL0001 - Policy error.

8.2 Interface: ReceiveMessage

Operations to retrieve messages that have been received.

8.2.1 Operation: GetReceivedMessages

This method enables the application to poll for new messages associated with a specific **registrationIdentifier**. If the **registrationIdentifier** is not specified, the Parlay X server will return references to all messages sent to the application.

The process of binding different **registrationIdentifier** parameters to applications is an off-line process. The Parlay X gateway shall not allow an application to poll for messages using **registrationIdentifier** parameters that are not associated with the application. The priority parameter may be used by the application to retrieve references to higher priority messages, e.g. if Normal is chosen only references to high priority and normal priority messages are returned. If the priority parameter is omitted all message references are returned.

8.2.1.1 Input message: GetReceivedMessagesRequest

Part name	Part type	Optional	Description
RegistrationIdentifier	xsd:string	No	Identifies the off-line provisioning step that enables the application to receive notification of Message reception according to specified criteria.
Priority	MessagePriority	Yes	~~OPTIONAL.~~ The priority of the messages to poll from the Parlay X gateway. All messages of the specified priority and higher will be retrieved. If not specified, all messages shall be returned, i.e. the same as specifying Low.

8.2.1.2 Output message: GetReceivedMessagesResponse

Part name	Part type	Optional	Description
Messages	MessageReference [0..unbounded]	Yes	It contains an array of messages received according to the specified filter of **registrationIdentifier** and **priority**.

8.2.1.3 Referenced faults

ServiceException from [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.

PolicyException from [6]:

- POL0001 - Policy error.

8.2.2 Operation: GetMessageURIs

This method will read the different parts of the message, create local files in the Parlay Gateway and return URI references to them. The application can then simply read each file or just have them presented as links to the end-user. The URIs to the files will be active for an agreed time.

8.2.2.1 Input message: GetMessageURIsRequest

Part name	Part type	Optional	Description
MessageRefIdentifier	xsd:string	No	The identity of the message to retrieve.

8.2.2.2 Output message: GetMessageURIsResponse

Part name	Part type	Optional	Description
Message	MessageURI	No	It contains the complete message, i.e. the textual part of the message, if such exists, and a list of file references for the message attachments, if any.

8.2.2.3 Referenced faults

ServiceException from [6]:

- SVC0001 - Service error.

- SVC0002 - Invalid input value.

PolicyException from [6]:

- POL0001 - Policy error.

8.2.3 Operation: GetMessage

This method will read the whole message. The data is returned as an attachment, as defined in SOAP Messages with Attachments [7], in the return message.

8.2.3.1 Input message: GetMessageRequest

Part name	Part type	Optional	Description
MessageRefIdentifier	String	No	The identity of the message

8.2.3.2 Output message: GetMessageResponse

Part name	Part type	Optional	Description
None			

8.2.3.3 Referenced faults

ServiceException from [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.

PolicyException from [6]:

- POL0001 - Policy error.

8.3 Interface: MessageNotification

MessageNotification is the application side notification interface to which multimedia messages are delivered.

8.3.1 Operation: NotifyMessageReception

The notification is used to send a multimedia message to the application. The notification will occur only if the multimedia message fulfils the criteria specified when starting the multimedia message notification.

8.3.1.1 Input message: NotifyMessageReceptionRequest

Part name	Part type	Optional	Description
correlator	xsd:string	No	Correlator provided in request to set up this notification
Message	MessageReference	No	This parameter contains all the information associated with the received message.

8.3.1.2 Output message: NotifyMessageReceptionResponse

Part name	Part type	Optional	Description
None			

8.3.1.3 Referenced faults

None.

8.4 Interface: MessageNotificationManager

The multimedia message notification manager enables applications to set up and tear down notifications for multimedia messages online. The means to provision notifications offline are not specified here.

8.4.1 Operation: StartMessageNotification

Start notifications to the application for a given Message Service activation number and criteria.

The Message Service activation number is an Address Data item as defined in 3GPP TS 29.199-1 [6]. A Shortcode is an example of an Address Data item.

The correlator provided in the reference must be unique for the application Web Service at the time the notification is initiated, otherwise a ServiceException (SVC0005) will be returned to the application..

If specified, criteria will be used to filter messages that are to be delivered to an application. If criteria are not provided, or is an empty string, then all messages for the MessageServiceActivationNumber will be delivered to the application. The MessageServiceActivationNumber and criteria combination must be unique. If a criteria overlaps then SVC0008 will be returned to the application and the notification will not be set up. Note that the use of criteria will allow different notification endpoints to receive notifications for the same MessageServiceActivationNumber. The combination of MessageServiceActivationNumber and criteria must be unique, so that a notification will be delivered to only one notification endpoint. If no match is found, the message will not be delivered to the application.

8.4.1.1 Input message: StartMessageNotificationRequest

Part name	Part type	Optional	Description
Reference	common:SimpleReference	No	Notification endpoint definition
MessageServiceActivationNumber	xsd:anyURI	No	the destination address of the multimedia message
Criteria	xsd:string	Yes	~~Optional.~~ The text to match against to determine the application to receive the notification. This text is matched agains the first word, as defined as the initial characters after discarding any leading Whitespace and ending with a Whitespace or end of the string. The matching shall be case-insensitive. If the subject of the multimedia message is present it shall be used as the string, if not the string is defined as the first plain/text part of the content (see 3GPP TS 23.140 [8]).

8.4.1.2 Output message: StartMessageNotificationResponse

Part Name	Part Type	Optional	Description
none			

8.4.1.3 Referenced Faults

ServiceException from [6]

- SVC0001 – Service error
- SVC0002 – Invalid input value
- SVC0005 – Duplicate correlator
- SVC0008 – Overlapping Criteria

PolicyException from [6]

- POL0001 – Policy error

8.4.2 Operation: StopMessageNotification

The application may end a multimedia message notification using this operation

8.4.2.1 Input message: StopMessageNotificationRequest

Part name	Part type	Optional	Description
Correlator	xsd:string	No	Correlator of request to end

8.4.2.2 Output message: StopMessageNotificationResponse

Part Name	Part Type	Optional	Description
None			

8.4.2.3 Referenced Faults

ServiceException from [6]

- SVC0001 – Service error
- SVC0002 – Invalid input value

PolicyException from [6]

- POL0001 – Policy error

End of change in Clause 8

Annex B (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Dec 2003	CN_21	NP-030552	--	--	Submitted to CN#22 for Information	1.0.0	
Jan 2004	--	--	--	--	Added The W3C WSDL representation of the APIs specified in the present document is contained in a set of files which accompany the present document: px0326rpcenc.zip px0326rpclit.zip	1.0.1	
Jun 2004	CN_24	NP-040274	--	--	Split into multi-part specification. 29.199-0n, for n=1,2…9. Submitted to CN#24 for Information	1.0.3	
Sep 2004	CN_25	NP-040360	--	--	Draft v200 submitted to TSG CN#25 for Approval.	2.0.0	6.0.0
Dec 2004	CN_26	NP-040487	001	--	Add MessageNotificationManager interface to PXWS Multimedia-Messaging	6.0.0	6.1.0
Mar 2005	CN_27	NP-050021	002	--	Correct criteria	6.1.0	6.2.0
Mar 2005	CN_27	NP-050021	003	--	Fix StopMessageNotification message part	6.1.0	6.2.0

Joint-Working-Group (Parlay, ETSI Project OSA, 3GPP CT5) **C5-050276**
Meeting #31, Osaka, JAPAN, 09-13 May 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **29.199-06** **CR** **0003** ⌘ **rev** **-** ⌘ Current version: **6.0.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Optionals for Part 6
Source:	⌘	CT5 IBM (Joe McIntyre)
Work item code:	⌘	OSA3
Date:	⌘	05/05/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
Ph2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)
Rel-7 (Release 7)

Reason for change:	⌘	Presently readers must look in multiple places (descriptive text, field description and/or message part description) to determine if a field or message part is optional or not. This change provides a consistent manner to specify this information which will improve readability of current specifications and future input contributions. In addition, the corresponding WSDL is updated to represent this information (using minOccurs/maxOccurs attributes), which is required to correctly reflect specification intent and ensure interoperability.
Summary of change:	⌘	Add “Optional” column with “Yes” or “No” values to field types and message parts. Add minOccurs/maxOccurs attributes to WSDL for optional elements.
Consequences if not approved:	⌘	How optional elements are represented remains inconsistent and prone to error or misinterpretation. WSDL does not include attributes for optional elements, reducing fidelity with specifications and interoperability.

Clauses affected:	⌘	7.1, 8			
		Y	**N**		
Other specs affected:	⌘	**X**		Other core specifications	⌘ 29.199-01, 29.199-02, 29.199-03, 29.199-04, 29.199-05, 29.199-07, 29.199-08, 29.199-09, 29.199-10, 29.199-11, 29.199-12, 29.199-13, 29.199-14
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

Change in Clause 7

7 XML Schema data type definition

7.1 Property structure

Property with a name and value.

Name	Type	Optional	Description
Name	xsd:string	No	Name of property
Value	xsd:string	No	Value of property

End of change in Clause 7

Change in Clause 8

8 Web Service interface definition

8.1 Interface: AmountCharging

Charge operations by amount.

8.1.1 Operation: ChargeAmount

This message results in directly charging to the account indicated by the end user identifier. The charge is specified as a currency amount. The billing text field is used for textual information to appear on the bill. The reference code is used to uniquely identify the request; it is the application's responsibility to provide a unique reference code within the scope of the application.

8.1.1.1 Input message: ChargeAmountRequest

Part name	Part type	Optional	Description
endUserIdentifier	xsd:anyURI	No	The end user's account to be charged
Amount	xsd:decimal	No	The currency amount of the charge
billingText	xsd:string	No	Textual information to appear on the bill
referenceCode	xsd:string	No	Textual information to uniquely identify the request, e.g. in case of disputes

8.1.1.2 Output message: ChargeAmountResponse

Part name	Part type	Optional	Description
None			

8.1.1.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0270 - Charge failed.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.1.2 Operation: RefundAmount

This message results in directly applying a refund to the account indicated by the end user identifier. The refund is specified as a currency amount. The billing text field is used for textual information to appear on the bill. The reference code is used to uniquely identify the request; it is the application's responsibility to provide a unique reference code within the scope of the application.

8.1.2.1 Input message: RefundAmountRequest

Part name	Part type	Optional	Description
endUserIdentifier	xsd:anyURI	No	The end user's account to be refunded
Amount	xsd:decimal	No	The currency amount of the refunded
billingText	xsd:string	No	Textual information to appear on the bill
referenceCode	xsd:string	No	Textual information to uniquely identify the request, e.g. in case of disputes

8.1.2.2 Output message: RefundAmountResponse

Part name	Part type	Optional	Description
None			

8.1.2.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0270 - Charge failed.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.2 Interface: VolumeCharging

Charging operations by volume.

8.2.1 Operation: ChargeVolume

This message results in directly charging to the account indicated by the end user identifier. The charge is specified as a volume. The billing text field is used for textual information to appear on the bill. The reference code is used to uniquely identify the request; it is the application's responsibility to provide a unique reference code within the scope of the application.

8.2.1.1 Input message: ChargeVolumeRequest

Part name	Part type	Optional	Description
endUserIdentifier	xsd:anyURI	No	The end user's account to be charged
volume	xsd:long	No	The volume to be charged
billingText	xsd:string	No	Textual information to appear on the bill
referenceCode	xsd:string	No	Textual information to uniquely identify the request, e.g. in case of disputes

8.2.1.2 Output message: ChargeVolumeResponse

Part name	Part type	Optional	Description
None			

8.2.1.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0270 - Charge failed.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.2.2 Operation: GetAmount

This message results in converting the given volume to a currency amount. The end user identifier is given to indicate the subscriber for whom this conversion calculation must be made. The message returns a currency amount if successful.

The following properties may be provided:

- unit, specifying the unit used for measuring volume (e.g. bytes);
- contract, number of a contract that may govern the use;
- service, name of the service to be used (e.g. SendMultimediaMessage);
- operation, name of the operation to be used (e.g. SendMessage).

8.2.2.1 Input message: GetAmountRequest

Part name	Part type	Optional	Description
endUserIdentifier	xsd:anyURI	No	The end user's account to be charged
volume	xsd:long	No	The volume to be converted
parameters	Property [0..unbounded]	Yes	Parameters to use to perform rating (“unit”, “contract”, “service”, “operation”)

8.2.2.2 Output message: GetAmountResponse

Part name	Part type	Optional	Description
Result	xsd:decimal	No	It is the currency amount resulting from the conversion process

8.2.2.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.2.3 Operation: RefundVolume

This message results in directly applying a refund to the account indicated by the end user identifier. The refund is specified as a volume. The billing text field is used for textual information to appear on the bill. The reference code is used to uniquely identify the request; it is the application's responsibility to provide a unique reference code within the scope of the application.

8.2.3.1 Input message: RefundVolumeRequest

Part name	Part type	Optional	Description
endUserIdentifier	xsd:anyURI	No	The end user's account to be refunded
volume	xsd:long	No	The volume to be refunded
billingText	xsd:string	No	Textual information to appear on the bill
referenceCode	xsd:string	No	Textual information to uniquely identify the request, e.g. in case of disputes

8.2.3.2 Output message: RefundVolumeResponse

Part name	Part type	Optional	Description
None			

8.2.3.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0270 - Charge failed.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.3 Interface: ReserveAmountCharging

Operations to manage reservation charging by amount.

8.3.1 Operation: ReserveAmount

This message results in directly reserving an amount for an account indicated by the end user identifier. The reservation is specified as a currency amount. Note that reservations do not last forever; it is assumed the default reservation enforcement time is negotiated off-line. If the reservation times out, the remaining funds will be returned to the account from which this reservation was made. However, the remaining funds shall preferably be returned explicitly to the account using the **releaseReservation** message. The billing text field is used for textual information to appear on the bill. Subsequent textual information provided during this charging session will be appended to this textual information; one charging session to a reservation will result in only one entry on the bill. In case of success, a reservation id is

returned for future reference; e.g. subsequent charging against the existing reservation using the **chargeReservation** message.

8.3.1.1 Input message: ReserveAmountRequest

Part name	Part type	Optional	Description
endUserIdentifier	xsd:anyURI	No	The end user's account subject to the reservation
amount	xsd:decimal	No	The currency amount of the reservation
billingText	xsd:string	No	Textual information to appear on the bill

8.3.1.2 Output message: ReserveAmountResponse

Part name	Part type	Optional	Description
reservationIdentifier	xsd:string	No	It is an identifier for the newly created reservation

8.3.1.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.3.2 Operation: ReserveAdditionalAmount

This message results in the addition/reduction of a currency amount to/from an existing reservation indicated by the reservation id. The reservation is specified as a currency amount. Note that reservations do not last forever; it is assumed the default reservation enforcement time is negotiated off-line. Invoking this message will extend the reservation enforcement time for another off-line-negotiated period. The billing text field is used for appending textual information to appear on the bill. The textual information is appended to the initial textual information given by the **reserveAmount** message; one charging session to a reservation will result in only one entry on the bill. Reserved credit can be returned to the account through the **releaseReservation** message.

8.3.2.1 Input message: ReserveAdditionalAmountRequest

Part name	Part type	Optional	Description
reservationIdentifier	xsd:string	No	An identifier for the reservation to be amended
amount	xsd:decimal	No	The currency amount to be added to (or subtracted from) the reservation
billingText	xsd:string	No	Textual information to appear on the bill

8.3.2.2 Output message : ReserveAdditionalAmountResponse

Part name	Part type	Optional	Description
None			

8.3.2.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.3.3 Operation: ChargeReservation

This message results in charging to a reservation indicated by the reservation id. Reservations, identified by reservation id, are established through invoking the **reserveAmount** message. The charge is specified as a currency amount. Optionally, the billing text field can be used for appending textual information to appear on the bill. The textual information is appended to the initial textual information given by the **reserveAmount** message; one charging session to a reservation will result in only one entry on the bill. The reference code is used to uniquely identify the request; it is the application's responsibility to provide a unique reference code within the scope of the application.

8.3.3.1 Input message: ChargeReservationRequest

Part name	Part type	Optional	Description
reservationIdentifier	xsd:string	No	An identifier for the reservation to be charged
amount	xsd:decimal	No	The currency amount of the charge
billingText	xsd:string	Yes	Textual information to appear on the bill
referenceCode	xsd:string	No	Textual information to uniquely identify the request, e.g. in case of disputes

8.3.3.2 Output message: ChargeReservationResponse

Part name	Part type	Optional	Description
None			

8.3.3.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0270 - Charge failed.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.3.4 Operation: ReleaseReservation

Returns funds left in a reservation indicated by reservation id to the account from which this reservation was made. Reservations, identified by reservation id, are established by invoking the reserveAmount message.

8.3.4.1 Input message: ReleaseReservationRequest

Part name	Part type	Optional	Description
reservationIdentifier	xsd:string	No	An identifier for the reservation to be released

8.3.4.2 Output message: ReleaseReservationResponse

Part name	Part type	Optional	Description
None			

8.3.4.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.4 Interface: ReserveVolumeCharging

Operations to manage reservation charging by amount.

8.4.1 Operation: GetAmount

Returns the amount resulting from converting the given volume. The end user identifier is given to indicate the subscriber for whom this calculation must be made. The message returns a currency amount if successful.

The following properties may be provided:

- unit, specifying the unit used for measuring volume (e.g. bytes);
- contract, number of a contract that may govern the use;
- service, name of the service to be used (e.g. SendMultimediaMessage);
- operation, name of the operation to be used (e.g. SendMessage).

8.4.1.1 Input message: GetAmountRequest

Part name	Part type	Optional	Description
endUserIdentifier	xsd:anyURI	No	The end user's account to be charged
volume	xsd:long	No	The volume to be converted
parameters	Property [0..unbounded]	Yes	Parameters to use to perform rating (“unit”, “contract”, “service”, “operation”)

8.4.1.2 Output message : GetAmountResponse

Part name	Part type	Optional	Description
amount	xsd:decimal	No	It is the currency amount resulting from the conversion process

8.4.1.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.4.2 Operation: ReserveVolume

Reserves an amount of an account indicated by the end user identifier. The reservation is specified as a volume. Note that reservations do not last forever; it is assumed the default reservation enforcement time is negotiated off-line. If the reservation times out, the remaining volume will be returned to the account from which this reservation was made. However, the remaining volume should preferably be returned explicitly to the account using the **releaseReservation** message. The billing text field is used for textual information to appear on the bill. Subsequent textual information provided during this charging session will be appended to this textual information; one charging session to a reservation will result in only one entry on the bill. In case of success, a reservation identifier is returned for future reference; e.g. subsequent charging against the existing reservation using the **chargeReservation** message.

8.4.2.1 Input message: ReserveVolumeRequest

Part name	Part type	Optional	Description
endUserIdentifier	xsd:anyURI	No	The end user's account subject to the reservation
volume	xsd:long	No	The volume of the reservation
billingText	xsd:string	No	Textual information to appear on the bill

8.4.2.2 Output message: ReserveVolumeResponse

Part name	Part type	Optional	Description
reservationIdentifier	xsd:string	No	It is an identifier for the newly created reservation

8.4.2.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.4.3 Operation: ReserveAdditionalVolume

Adds/reduces a volume to an existing reservation indicated by the reservation id. The reservation is specified as a volume. Note that reservations do not last forever; it is assumed the default reservation enforcement time is negotiated off-line. Invoking this message will extend the reservation enforcement time for another off-line-negotiated period. The billing text field is used for appending textual information to appear on the bill. The textual information is appended to the initial textual information given by the **reserveVolume** message; one charging session to a reservation will result in only one entry on the bill. A reserved credit can be returned to the account through the **releaseReservation** message.

8.4.3.1 Input message: ReserveAdditionalVolumeRequest

Part name	Part type	Optional	Description
reservationIdentifier	xsd:string	No	An identifier for the reservation to be amended
volume	xsd:long	No	The volume to be added to (or subtracted from) the reservation
billingText	xsd:string	No	Textual information to appear on the bill

8.4.3.2 Output message: ReserveAdditionalVolumeResponse

Part name	Part type	Optional	Description
None			

8.4.3.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.4.4 Operation: ChargeReservation

This message results in charging to a reservation indicated by the reservation id.. Reservations, identified by reservation id., are established through invoking the **reserveVolume** message. The charge is specified as a volume. Optionally, the billing text field can be used for appending textual information to appear on the bill. The textual information is appended to the initial textual information given by the **reserveVolume** message; one charging session to a reservation will result in only one entry on the bill. The reference code is used to uniquely identify the request; it is the application's responsibility to provide a unique reference code within the scope of the application.

8.4.4.1 Input message: ChargeReservationRequest

Part name	Part type	Optional	Description
reservationIdentifier	xsd:string	No	An identifier for the reservation to be charged
volume	xsd:long	No	The currency amount of the charge
billingText	xsd:string	Yes	Textual information to appear on the bill ~~(optional)~~
referenceCode	xsd:string	No	Textual information to uniquely identify the request, e.g. in case of disputes

8.4.4.2 Output message: ChargeReservationResponse

Part name	Part type	Optional	Description
None			

8.4.4.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0270 - Charge failed.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.4.5 Operation: ReleaseReservation

Returns funds left in a reservation indicated by reservation id. to the account from which this reservation was made. Reservations, identified by reservation id., are established through invoking the **reserveVolume** message.

8.4.5.1 Input message: ReleaseReservationRequest

Part name	Part type	Optional	Description
reservationIdentifier	xsd:string	No	An identifier for the reservation to be released

8.4.5.2 Output message: ReleaseReservationResponse

Part name	Part type	Optional	Description
None			

8.4.5.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

End of change in Clause 8

Annex B (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Dec 2003	CN_21	NP-030552	--	--	Submitted to CN#22 for Information	1.0.0	
Jan 2004	--	--	--	--	Added The W3C WSDL representation of the APIs specified in the present document is contained in a set of files which accompany the present document: px0326rpcenc.zip px0326rpclit.zip	1.0.1	
Jun 2004	CN_24	NP-040274	--	--	Split into multi-part specification. 29.199-0n, for n=1,2…9. Submitted to CN#24 for Information	1.0.3	
Sep 2004	CN_25	NP-040360	--	--	Draft v200 submitted to TSG CN#25 for Approval.	2.0.0	6.0.0

Joint-Working-Group (Parlay, ETSI Project OSA, 3GPP CT5) **C5-050277**
Meeting #31, Osaka, JAPAN, 09-13 May 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **29.199-07** **CR** **0002** ⌘ **rev** **-** ⌘ Current version: **6.0.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Optionals for Part 7
Source:	⌘	CT5 IBM (Joe McIntyre)
Work item code:	⌘	OSA3
Date:	⌘	07/05/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
Ph2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)
Rel-7 (Release 7)

Reason for change:	⌘	Presently readers must look in multiple places (descriptive text, field description and/or message part description) to determine if a field or message part is optional or not. This change provides a consistent manner to specify this information which will improve readability of current specifications and future input contributions. In addition, the corresponding WSDL is updated to represent this information (using minOccurs/maxOccurs attributes), which is required to correctly reflect specification intent and ensure interoperability.
Summary of change:	⌘	Add “Optional” column with “Yes” or “No” values to field types and message parts. Add minOccurs/maxOccurs attributes to WSDL for optional elements.
Consequences if not approved:	⌘	How optional elements are represented remains inconsistent and prone to error or misinterpretation. WSDL does not include attributes for optional elements, reducing fidelity with specifications and interoperability.

Clauses affected:	⌘	7.1, 8			
		Y	**N**		
Other specs affected:	⌘	**X**		Other core specifications	⌘ 29.199-01, 29.199-02, 29.199-03, 29.199-04, 29.199-05, 29.199-06, 29.199-08, 29.199-09, 29.199-10, 29.199-11, 29.199-12, 29.199-13, 29.199-14
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

Change in Clause 7

7 XML Schema data type definition

7.1 DatedTransaction structure

This data structure represents a transaction record.

Element Name	Element Type	Optional	Description
TransactionDate	xsd:dateTime	No	The date the transaction occurred.
TransactionDetails	xsd:string	No	The transaction details.

End of change in Clause 7

Change in Clause 8

8 Web Service interface definition

8.1 Interface: AccountManagement

The Account Management interface provides access to account information for update and query operations.

8.1.1 Operation: GetBalance

This message results in getting account balance indicated by the end user identifier and associated end user PIN. The returned amount is specified as a currency amount.

8.1.1.1 Input message: GetBalanceRequest

Part name	Part type	Optional	Description
EndUserIdentifier	xsd:anyURI	No	This parameter identifies the end user's account.
EndUserPin	xsd:string	Yes	~~OPTIONAL:~~ Contains the end user's credentials for authorizing access to the account

8.1.1.2 Output message: GetBalanceResponse

Part name	Part type	Optional	Description
Amount	xsd:decimal	No	It is the balance on the end user's account.

8.1.1.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0250 - End user authentication failed.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.1.2 Operation: GetCreditExpiryDate

This message results in getting the expiration date of the credit indicated by the end user identifier and associated end user PIN. The returned date is the date the current balance will expire. Nil is returned if the balance does not expire.

8.1.2.1 Input message: GetCreditExpiryDateRequest

Part name	Part type	Optional	Description
EndUserIdentifier	xsd:anyURI	No	This parameter identifies the end user's account.
EndUserPin	xsd:string	Yes	~~OPTIONAL:~~ Contains the end user's credentials for authorizing access to the account.

8.1.2.2 Output message: GetCreditExpiryDateResponse

Part name	Part type	Optional	Description
Date	xsd:dateTime	Yes	It is the date the current balance will expire. ~~Nil is returned if the balance does not expire.~~

8.1.2.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0250 - End user authentication failed.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

8.1.3 Operation: BalanceUpdate

This message results in directly recharging the account indicated by the end user identifier and optional associated end user PIN. The reference code is used to uniquely identify the request; it is the application's responsibility to provide a unique reference code within the scope of the application. The charge is specified as a currency amount. The balance is requested to expire in the number of days indicated by the period parameter. The operator's policies may overrule this parameter. If the optional period parameter is not present, the operator's policy on balance expiration is always in effect.

8.1.3.1 Input message: BalanceUpdateRequest

Part name	Part type	Optional	Description
EndUserIdentifier	xsd:anyURI	No	This parameter identifies the end user's account.
EndUserPin	xsd:string	Yes	~~OPTIONAL.~~ Contains the end user's credentials for authorizing access to the account.
ReferenceCode	xsd:string	No	Textual information to uniquely identify the request, e.g. in case of disputes
Amount	xsd:decimal	No	Currency amount that should be added to the end user's account.
Period	xsd:int	Yes	~~OPTIONAL.~~ The balance is requested to expire in the number of days indicated by this parameter. The operator's policies may overrule this parameter. If this optional parameter is not present, the operator's policy on balance expiration is always in effect.

8.1.3.2 Output message: BalanceUpdateResponse

Part name	Part type	Optional	Description
None			

8.1.3.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0250 - End user authentication failed.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error

8.1.4 Operation: VoucherUpdate

This message results in directly recharging the account indicated by the end user identifier and optional associated end user PIN. The reference code is used to uniquely identify the request; it is the application's responsibility to provide a unique reference code within the scope of the application. A voucher identifier indirectly specifies the charge. The optional voucher PIN code can be used to verify the voucher.

8.1.4.1 Input message: VoucherUpdateRequest

Part name	Part type	Optional	Description
EndUserIdentifier	xsd:anyURI	No	This parameter identifies the end user's account.
EndUserPin	xsd:string	Yes	~~OPTIONAL.~~ Contains the end user's credentials for authorizing access to the account.
ReferenceCode	xsd:string	No	Textual information to uniquely identify the request, e.g. in case of disputes
VoucherIdentifier	xsd:string	No	This parameter identifies the voucher.
VoucherPin	xsd:string	Yes	~~OPTIONAL.~~ Contains the voucher's credentials for authentication.

8.1.4.2 Output message: VoucherUpdateResponse

Part name	Part type	Optional	Description
None			

8.1.4.3 Referenced Faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.
- SVC0250 - End user authentication failed.
- SVC0251 - Unknown voucher.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.
- POL0220 - Vouchers not accepted.

8.1.5 Operation: GetHistory

This message results in returning the transaction history of the account indicated by the end user identifier and associated optional end user PIN. The maximum number of entries to return and the start date define the range of transactions that are of interest to the requester.

If the total number of entries in the transaction history, starting at the specified date, is larger than the specified maximum number of entries, only the most recent events are returned. Note that the operator might limit the maximum amount of entries to be returned or the period for which the entries are to be returned.

8.1.5.1 Input message: GetHistoryRequest

Part name	Part type	Optional	Description
EndUserIdentifier	xsd:anyURI	No	This parameter identifies the end user's account.
EndUserPin	xsd:string	Yes	~~OPTIONAL.~~ Contains the end user's credentials for authorizing access to the account.
Date	xsd:dateTime	Yes	~~OPTIONAL.~~ This parameter indicates the desired starting date for the entries to be returned. If this parameter is not present, it is up to the discretion of the service to decide this date.
MaxEntries	xsd:int	Yes	~~OPTIONAL.~~ This parameter indicates the maximum number of entries that shall be returned. If this parameter is not present, it is up to the discretion of the service to decide how many entries to return.

8.1.5.2 Output message: GetHistoryResponse

Part name	Part type	Optional	Description
History	DatedTransaction [0 .. unbounded]	Yes	It is a DatedTransaction array that consists of types with a date field and a string field: i.e. the date of the occurrence and the transaction details, respectively.

8.1.5.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001 - Service error.
- SVC0002 - Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001 - Policy error.

End of change in Clause 8

Annex B (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Sep 2004	CN_25	NP-040360	--	--	Draft v200 submitted to TSG CN#25 for Approval.	2.0.0	6.0.0

Joint-Working-Group (Parlay, ETSI Project OSA, 3GPP CT5) **C5-050278**
Meeting #31, Osaka, JAPAN, 09-13 May 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **29.199-08** **CR** **0001** ⌘ **rev** **-** ⌘ Current version: **6.0.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Optionals for Part 8
Source:	⌘	CT5 IBM (Joe McIntyre)
Work item code:	⌘	OSA3
Date:	⌘	07/05/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
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Use one of the following releases:
Ph2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)
Rel-7 (Release 7)

Reason for change:	⌘	Presently readers must look in multiple places (descriptive text, field description and/or message part description) to determine if a field or message part is optional or not. This change provides a consistent manner to specify this information which will improve readability of current specifications and future input contributions. In addition, the corresponding WSDL is updated to represent this information (using minOccurs/maxOccurs attributes), which is required to correctly reflect specification intent and ensure interoperability.
Summary of change:	⌘	Add “Optional” column with “Yes” or “No” values to field types and message parts. Add minOccurs/maxOccurs attributes to WSDL for optional elements.
Consequences if not approved:	⌘	How optional elements are represented remains inconsistent and prone to error or misinterpretation. WSDL does not include attributes for optional elements, reducing fidelity with specifications and interoperability.

Clauses affected:	⌘	7.3, 8				
		Y	**N**			
Other specs affected:	⌘	**X**		Other core specifications	⌘	29.199-01, 29.199-02, 29.199-03, 29.199-04, 29.199-05, 29.199-06, 29.199-07, 29.199-09, 29.199-10, 29.199-11, 29.199-12, 29.199-13, 29.199-14
			X	Test specifications		
			X	O&M Specifications		
Other comments:	⌘					

Change in Clause 7.3

7.3 StatusData structure

Data structure containing device identifier and its status. As this can be related to a query of a group of terminal devices, the ResultStatus element is used to indicate whether the information for the device was retrieved or not, or if an error occurred.

Name	Type	Optional	Description
Address	xsd:anyURI	No	Address of the Terminal Device to which the status information applies.
ReportStatus	RetrievalStatus	No	Status of retrieval for this address.
CurrentStatus	Status	No	Status of terminal.
ErrorInformation	common:ServiceError	Yes	If ReportStatus is Error, this is the reason for the error. Error due to privacy verification will be expressed as POL0002 in the ServiceError.

End of change in Clause 7.3

Change in Clause 8

8 Web service interface definition

8.1 Interface: TerminalStatus

Request the status for a terminal or set of terminals.

8.1.1 Operation: GetStatus

This operation is intended to retrieve the status for a single terminal. The URI provided is for a single terminal, not a group URI. If a group URI is provided, a PolicyException will be returned to the application.

8.1.1.1 Input message: GetStatusRequest

Part name	Part type	Optional	Description
Address	xsd:anyURI	No	Terminal to request status for

8.1.1.2 Output message: GetStatusResponse

Part name	Part type	Optional	Description
Result	Status	No	Status for the terminal for which status was requested

8.1.1.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.
- POL0002: Privacy error.
- POL0006: Groups not allowed.

8.1.2 Operation: GetStatusForGroup

The getStatusForGroup operation initiates a retrieval activity, where one or more terminals, or groups of terminals, may have their status determined.

The Web Service may return a result set that does not include complete information, allowing the Web Service implementation to choose to deliver a partial set of results to accommodate other conditions, such as avoiding timeouts. In this case, the addresses for which no attempt was made to provide data will be marked NotRetrieved in the result for each address this applies to.

8.1.2.1 Input message: GetStatusForGroupRequest

Part name	Part type	Optional	Description
Addresses	xsd:anyURI [1~~0~~..unbounded]	No	List of URIs to get status for, including group URIs

8.1.2.2 Output message: GetStatusForGroupResponse

Part name	Part type	Optional	Description
Result	StatusData [1~~0~~..unbounded]	No	Set of results for the request

8.1.2.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.
- SVC0004: No valid addresses.
- SVC0006: Invalid group.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.
- POL0003: Too many addresses.
- POL0006: Groups not allowed.
- POL0007: Nested groups not allowed.

8.2 Interface: TerminalStatusNotificationManager

Set up notifications for terminal status changes.

8.2.1 Operation: StartNotification

Notifications of status changes are made available to applications. The number and duration of notifications may be requested as part of the setup of the notification or may be governed by service policies, or a combination of the two.

If CheckImmediate is set to true, then the notification will be set up, and then the current value of the terminal status will be checked. If the terminal status meets the criteria provided, a notification will be sent to the application. This notification will count against the count requested. This addresses the case where the status of the device changes during the time the notification is being set up, which may be appropriate in some applications.

The correlator provided in the reference must be unique for this Web Service at the time the notification is initiated, otherwise a ServiceException (SVC0005) will be returned to the application.

If the frequency requested is more often than allowed by the service policy, then the value in the service policy will be used. If the duration requested exceeds the time allowed in the service policy, then the value in the service policy will be used. If the notification period (duration) ends before all of the notifications (count) have been delivered, then the notification terminates. In all cases, when the notifications have run their course (by duration or count), an end of notifications message will be provided to the application.

Service policies may govern what count values can be requested, including maximum number of notifications allowed and whether unlimited notifications can be requested (specifying a count of zero). If the count value provided is not in policy, a PolicyException (POL0004 or POL0005 as appropriate) will be returned.

8.2.1.1 Input message: StartNotificationRequest

Part name	Part type	Optional	Description
Reference	common:SimpleReference	No	Notification endpoint definition
Addresses	xsd:anyURI [1~~0~~..unbounded]	No	Addresses of terminals to monitor
Criteria	Status [1~~0~~..unbounded]	No	List of status values to generate notifications for (these apply to all addresses specified)
CheckImmediate	xsd:boolean	No	Check status immediately after establishing notification
Frequency	common:TimeMetric	No	Maximum frequency of notifications (can also be considered minimum time between notifications)
Duration	common:TimeMetric	Yes	Length of time notifications occur for, do not specify~~null~~ to use default notification time defined by service policy
Count	xsd:integer	Yes	Maximum number of notifications, ~~zero if~~do not specify for no maximum

8.2.1.2 Output message: StartNotificationResponse

Part name	Part type	Optional	Description
None			

8.2.1.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.
- SVC0004: No valid addresses.
- SVC0005: Duplicate correlator.
- SVC0006: Invalid group.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

- POL0003: Too many addresses.
- POL0004: Unlimited notifications not supported.
- POL0005: Too many notifications requested.
- POL0006: Groups not allowed.
- POL0007: Nested groups not allowed.
- POL0009: Invalid frequency requested.
- POL0200: Busy criteria not supported.

8.2.2 Operation: EndNotification

The application may end a notification using this operation. Until this operation returns, notifications may continue to be received by the application.

An end of notification (statusEnd) message will not be delivered to the application for a notification ended using this operation.

8.2.2.1 Input message: EndNotificationRequest

Part name	Part type	Optional	Description
Correlator	xsd:string	No	Correlator of request to end

8.2.2.2 Output message: EndNotificationResponse

Part name	Part type	Optional	Description
None			

8.2.2.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.3 Interface: TerminalNotification

Notification interface to which notifications are delivered.

8.3.1 Operation: StatusNotification

When the status of a monitored device changes, a notification is delivered to the application with the new status information. If a group identifier was used, the terminal device URI is provided, not the group URI.

8.3.1.1 Input message: StatusNotificationRequest

Part name	Part type	Optional	Description
Correlator	xsd:string	No	Correlator provided in request to set up this notification
Address	xsd:anyURI	No	Address of the terminal the status change applies to
CurrentStatus	Status	No	New terminal status

8.3.1.2 Output message: StatusNotificationResponse

Part name	Part type	Optional	Description
None			

8.3.1.3 Referenced faults

None.

8.3.2 Operation: StatusError

The status changed error message is sent to the application to indicate that the notification is being cancelled by the Web Service.

8.3.2.1 Input message: StatusErrorRequest

Part name	Part type	Optional	Description
Correlator	xsd:string	No	Correlator provided in request to set up this notification.
Address	xsd:anyURI	No	Address of terminal if the error applies to an individual terminal, or nil if applies to whole notification.
Reason	common:ServiceError	No	Reason notification is being discontinued.

8.3.2.2 Output message: StatusErrorResponse

Part name	Part type	Optional	Description
None			

8.3.2.3 Referenced faults

None.

8.3.3 Operation: StatusEnd

The notifications have completed for this correlator. This message will be delivered when the duration or count for notifications have been completed. This message will not be delivered in the case of an error ending the notifications or deliberate ending of the notifications (using endNotification operation).

8.3.3.1 Input message: StatusEndRequest

Part name	Part type	Optional	Description
Correlator	xsd:string	No	Correlator provided in request to set up this notification.

8.3.3.2 Output message: StatusEndResponse

Part name	Part type	Optional	Description
None			

8.3.3.3 Referenced faults

None.

End of change in Clause 8

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Dec 2003	CN_21	NP-030552	--	--	Submitted to CN#22 for Information	1.0.0	
Jan 2004	--	--	--	--	Added The W3C WSDL representation of the APIs specified in the present document is contained in a set of files which accompany the present document: px0326rpcenc.zip px0326rpclit.zip	1.0.1	
Jun 2004	CN_24	NP-040274	--	--	Split into multi-part specification. 29.199-0n, for n=1,2…9. Submitted to CN#24 for Information	1.0.3	
Sep 2004	CN_25	NP-040360	--	--	Draft v200 submitted to TSG CN#25 for Approval.	2.0.0	6.0.0

Joint-Working-Group (Parlay, ETSI Project OSA, 3GPP CT5) **C5-050279**
Meeting #31, Osaka, JAPAN, 09-13 May 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **29.199-09** **CR** **0001** ⌘ **rev** **-** ⌘ Current version: **6.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Optionals for Part 9
Source:	⌘	CT5 IBM (Joe McIntyre)
Work item code:	⌘	OSA3
Date:	⌘	07/05/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

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Rel-6 *(Release 6)*
Rel-7 *(Release 7)*

Reason for change:	⌘	Presently readers must look in multiple places (descriptive text, field description and/or message part description) to determine if a field or message part is optional or not. This change provides a consistent manner to specify this information which will improve readability of current specifications and future input contributions. In addition, the corresponding WSDL is updated to represent this information (using minOccurs/maxOccurs attributes), which is required to correctly reflect specification intent and ensure interoperability.
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Consequences if not approved:	⌘	How optional elements are represented remains inconsistent and prone to error or misinterpretation. WSDL does not include attributes for optional elements, reducing fidelity with specifications and interoperability.

Clauses affected:	⌘	7.4, 7.6, 8			
		Y	**N**		
Other specs affected:	⌘	**X**		Other core specifications	⌘ 29.199-01, 29.199-02, 29.199-03, 29.199-04, 29.199-05, 29.199-06, 29.199-07, 29.199-08, 29.199-10, 29.199-11, 29.199-12, 29.199-13, 29.199-14
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

Change in Clause 7.4

7.4 LocationInfo structure

Location information represented as a coordinate.

Name	Type	Optional	Description
Address	xsd:anyURI	No	Address of the terminal device to which the location information applies
Latitude	xsd:float	No	Location latitude
Longitude	xsd:float	No	Location longitude
Altitude	xsd:float	Yes	Location altitude ~~(optional)~~
Accuracy	xsd:int	No	Accuracy of location provided in meters
Timestamp	xsd:dateTime	No	Date and time that location was collected

End of change in Clause 7.4

Change in Clause 7.6

7.6 LocationData structure

Data structure containing device address, retrieval status and location information. As this can be related to a query of a group of terminal devices, the ResultStatus element is used to indicate whether the information for the device was retrieved or not, or if an error occurred.

Name	Type	Optional	Description
ReportStatus	RetrievalStatus	No	Status of retrieval for this terminal device address
CurrentLocation	LocationInfo	No	Location of terminal
ErrorInformation	common:ServiceError	Yes	If report status is error, this is the reason for the error. Error due to privacy verification will be expressed as POL0002 in the ServiceError.

End of change in Clause 7.6

Change in Clause 8

8 Web service interface definition

8.1 Interface: TerminalLocation

Request the location for a terminal.

8.1.1 Operation: GetLocation

This operation is intended to retrieve the location for a single terminal. The accuracy requested is the desired accuracy for the response. The acceptable accuracy is the limit acceptable to the requester. If the accuracy requested cannot be supported, a PolicyException (POL0230) will be returned to the application. If the accuracy of the location is not within the acceptable accuracy limit, then the location will not be returned, instead a ServiceException (SVC0200) will be returned. The URI provided is for a single terminal, not a group URI. If a group URI is provided, a PolicyException will be returned to the application.

8.1.1.1 Input message: GetLocationRequest

Part name	Part type	Optional	Description
Address	xsd:anyURI	No	Address of the terminal device for which the location information is requested
RequestedAccuracy	xsd:int	No	Accuracy of location information requested
AcceptableAccuracy	xsd:int	No	Accuracy that is acceptable for a response

8.1.1.2 Output message: GetLocationResponse

Part name	Part type	Optional	Description
Result	LocationInfo	No	Location of the terminal for which location information was requested

8.1.1.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.
- SVC0200: Accuracy out of limit.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.
- POL0002: Privacy error.
- POL0006: Groups not allowed.
- POL0230: Requested accuracy not supported.

8.1.2 Operation: GetTerminalDistance

This operation is intended to determine the distance of a terminal from a location. The URI provided is for a single terminal, not a group URI. If a group URI is provided, a PolicyException will be returned to the application.

8.1.2.1 Input message: GetTerminalDistanceRequest

Part name	Part type	Optional	Description
Address	xsd:anyURI	No	Address of terminal to check
Latitude	xsd:float	No	Latitude of the location to measure from
Longitude	xsd:float	No	Longitude of the location to measure from

8.1.2.2 Output message: GetTerminalDistanceResponse

Part name	Part type	Optional	Description
Result	xsd:int	No	Distance from terminal to the location specified in meters

8.1.2.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.
- POL0002: Privacy error.
- POL0006: Groups not allowed.

8.1.3 Operation: GetLocationForGroup

The getLocationForGroup operation initiates a retrieval activity, where one or more terminals, or groups of terminals, may have their locations determined. The accuracy requested is the desired accuracy for the response. If the accuracy requested is not supported, a PolicyException (POL0230) will be returned to the application. If the location retrieved is not within the acceptable accuracy limit, then the location data will contain a ServiceError (SVC0200).

The Web Service may return a result set that does not include complete information, allowing the Web Service implementation to choose to deliver a partial set of results to accommodate other conditions, such as avoiding timeouts. In this case, the addresses for which no attempt was made to provide data will be marked NotRetrieved in the result for each address for which a location retrieved was not attempted.

8.1.3.1 Input message: GetLocationForGroupRequest

Part name	Part type	Optional	Description
Addresses	xsd:anyURI [1~~0~~..unbounded]	No	List of URIs to get location for, including group URIs
RequestedAccuracy	xsd:int	No	Accuracy of location requested in meters
AcceptableAccuracy	xsd:int	No	Accuracy that is acceptable for a response in meters

8.1.3.2 Output message: GetLocationForGroupResponse

Part name	Part type	Optional	Description
Result	LocationData [1~~0~~..unbounded]	No	Set of results for the request

8.1.3.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.
- SVC0004: No valid addresses.
- SVC0006: Invalid group.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.
- POL0003: Too many addresses.
- POL0006: Groups not allowed.
- POL0007: Nested groups not allowed.
- POL0230: Requested accuracy not supported.

8.2 Interface: TerminalLocationNotificationManager

Set up notifications for terminal location events using geographical based definitions.

8.2.1 Operation: StartGeographicalNotification

Notifications of location changes are made available to applications. The number and duration of notifications may be requested as part of the setup of the notification or may be governed by service policies, or a combination of the two.

If CheckImmediate is set to true, then the notification will be set up, and then the current value of the terminal location will be checked. If the terminal location is within the radius provided and the criteria is Entering or is outside the radius and the criteria is Leaving, a notification will be sent to the application. This notification will count against the count requested. This addresses the case where the location of the device changes during the time the notification is being set up, which may be appropriate in some applications.

The correlator provided in the reference must be unique for this Web Service at the time the notification is initiated, otherwise a ServiceException (SVC0005) will be returned to the application.

If the frequency requested is more often than allowed by the service policy, then the value in the service policy will be used. If the duration requested exceeds the time allowed in the service policy, then the value in the service policy will be used. If the notification period (duration) ends before all of the notifications (count) have been delivered, then the notification terminates. In all cases, when the notifications have run their course (by duration or count), an end of notifications message will be provided to the application.

Service policies may govern what count values can be requested, including maximum number of notifications allowed and whether unlimited notifications can be requested (specifying a count of zero). If the count value provided is not in policy, a PolicyException (POL0004 or POL0005 as appropriate) will be returned.

The criteria will be met when the terminal enters the area defined as the circle of the radius provided around the point provided (latitude, longitude). The tracking accuracy provided will determine how fine grained the determination of where the terminal is at is. A tracking accuracy with a high value (coarse grained tracking) may result in more or less notifications (false notifications or missed notifications) than actual entries and exits from the area defined.

Service policies govern what values can be provided for tracking accuracy, including a minimum number of meters for tracking accuracy that can be requested. If the value provided is not within policy, a PolicyException (POL0230) will be returned.

8.2.1.1 Input message: StartGeographicalNotificationRequest

Part name	Part type	Optional	Description
Reference	common:SimpleReference	No	Notification endpoint definition
Addresses	xsd:anyURI [1~~0~~..unbounded]	No	Addresses of terminals to monitor
Latitude	xsd:float	No	Latitude of center point
Longitude	xsd:float	No	Longitude of center point
Radius	xsd:float	No	Radius of circle around center point in meters
TrackingAccuracy	xsd:float	No	Number of meters of acceptable error in tracking distance
Criteria	EnteringLeavingCriteria	No	Indicates whether the notification should occur when the terminal enters or leaves the target area
CheckImmediate	xsd:boolean	No	Check location immediately after establishing notification
Frequency	common:TimeMetric	No	Maximum frequency of notifications (can also be considered minimum time between notifications)
Duration	common:TimeMetric	Yes	Length of time notifications occur for, ~~null~~ do not specify to use default notification time defined by service policy
Count	xsd:int	Yes	Maximum number of notifications, ~~zero if~~do not specify for no maximum

8.2.1.2 Output message: StartGeographicalNotificationResponse

Part name	Part type	Optional	Description
None			

8.2.1.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.
- SVC0004: No valid addresses.
- SVC0005: Duplicate correlator.
- SVC0006: Invalid group.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.
- POL0003: Too many addresses.
- POL0004: Unlimited notifications not supported.
- POL0005: Too many notifications requested.
- POL0006: Groups not allowed.
- POL0007: Nested groups not allowed.
- POL0009: Invalid frequency requested.
- POL0230: Requested accuracy not available.
- POL0231: Geographic notification not available.

8.2.2 Operation: StartPeriodicNotification

Periodic notifications provide location information for a set of terminals at an application defined interval. The accuracy requested is the desired accuracy for the response. If the accuracy requested is not supported, a PolicyException (POL0230) will be returned to the application.

8.2.2.1 Input message: StartPeriodicNotificationRequest

Part name	Part type	Optional	Description
Reference	common:SimpleReference	No	Notification endpoint definition
Addresses	xsd:anyURI [1~~0~~..unbounded]	No	Addresses of terminals to monitor
RequestedAccuracy	xsd:int	No	Accuracy of location requested in meters
Frequency	common:TimeMetric	No	Maximum frequency of notifications (can also be considered minimum time between notifications)
Duration	common:TimeMetric	Yes	Length of time notifications occur for, ~~null~~ do not specify to use default notification time defined by service policy

8.2.2.2 Output message: StartPeriodicNotificationResponse

Part name	Part type	Optional	Description
None			

8.2.2.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.
- SVC0004: No valid addresses.

- SVC0005: Duplicate correlator.
- SVC0006: Invalid group.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.
- POL0003: Too many addresses.
- POL0006: Groups not allowed.
- POL0007: Nested groups not allowed.
- POL0009: Invalid frequency requested.
- POL0230: Requested accuracy not available.
- POL0232: Periodic notification not available.

8.2.3 Operation: EndNotification

The application may end a notification (either type) using this operation.

Until this operation returns, notifications may continue to be received by the application.

An end of notification (endNotification) message will not be delivered to the application for a notification ended using this operation.

8.2.3.1 Input message: EndNotificationRequest

Part name	Part type	Optional	Description
Correlator	xsd:string	No	Correlator of request to end

8.2.3.2 Output message: EndNotificationResponse

Part name	Part type	Optional	Description
None			

8.2.3.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.3 Interface: TerminalLocationNotification

Notification interface to which notifications are delivered.

8.3.1 Operation: LocationNotification

When the location of a monitored device changes a notification is delivered to the application with the new location information. If a group identifier was used, the terminal device URI is provided, not the group URI.

8.3.1.1 Input message: LocationNotificationRequest

Part name	Part type	Optional	Description
Correlator	xsd:string	No	Correlator provided in request to set up this notification
Data	LocationInfo [10.. unbounded]	No	Location information for terminal
Criteria	EnteringLeavingCriteria	No	Indicates whether the notification was caused by the terminal entering or leaving the target area (provided for geographical notifications, not for periodic notifications)

8.3.1.2 Output message: LocationNotificationResponse

Part name	Part type	Optional	Description
None			

8.3.1.3 Referenced faults

None.

8.3.2 Operation: LocationError

The location error message is sent to the application to indicate that the notification for a terminal, or for the whole notification, is being cancelled by the Web Service.

8.3.2.1 Input message: LocationErrorRequest

Part name	Part type	Optional	Description
Correlator	xsd:string	No	Correlator provided in request to set up this notification.
Address	xsd:anyURI	Yes	Address of terminal if the error applies to an individual terminal, or nil not specified if it applies to the whole notification.
Reason	common:ServiceError	No	Reason notification is being discontinued.

8.3.2.2 Output message: LocationErrorResponse

Part name	Part type	Optional	Description
None			

8.3.2.3 Referenced faults

None.

8.3.3 Operation: LocationEnd

The notifications have completed for this correlator. This message will be delivered when the duration or count for notifications have been completed. This message will not be delivered in the case of an error ending the notifications or deliberate ending of the notifications (using endNotification operation).

8.3.3.1 Input message: LocationEndRequest

Part name	Part type	Optional	Description
Correlator	xsd:string	No	Correlator provided in request to set up this notification.

8.3.3.2 Output message: LocationEndResponse

Part name	Part type	Optional	Description
None			

8.3.3.3 Referenced faults

None.

End of change in Clause 8

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Dec 2003	CN_21	NP-030552	--	--	Submitted to CN#22 for Information	1.0.0	
Jan 2004	--	--	--	--	Added The W3C WSDL representation of the APIs specified in the present document is contained in a set of files which accompany the present document: px0326rpcenc.zip px0326rpclit.zip	1.0.1	
Jun 2004	CN_24	NP-040274	--	--	Split into multi-part specification. 29.199-0n, for n=1,2…9. Submitted to CN#24 for Information	1.0.3	
Sep 2004	CN_25	NP-040360	--	--	Draft v200 submitted to TSG CN#25 for Approval.	2.0.0	6.0.0
Dec 2004	CN_26	NP-040487	001	--	Add PXWS Terminal Location Tracking Accuracy	6.0.0	6.1.0

Joint-Working-Group (Parlay, ETSI Project OSA, 3GPP CT5) **C5-050280**
Meeting #31, Osaka, JAPAN, 09-13 May 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **29.199-10** **CR** **0001** ⌘ **rev** **-** ⌘ Current version: **6.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Optionals for Part 10
Source:	⌘	CT5 IBM (Joe McIntyre)
Work item code:	⌘	OSA3
Date:	⌘	07/05/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
Ph2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*
Rel-7 *(Release 7)*

Reason for change:	⌘	Presently readers must look in multiple places (descriptive text, field description and/or message part description) to determine if a field or message part is optional or not. This change provides a consistent manner to specify this information which will improve readability of current specifications and future input contributions. In addition, the corresponding WSDL is updated to represent this information (using minOccurs/maxOccurs attributes), which is required to correctly reflect specification intent and ensure interoperability.
Summary of change:	⌘	Add “Optional” column with “Yes” or “No” values to field types and message parts. Add minOccurs/maxOccurs attributes to WSDL for optional elements.
Consequences if not approved:	⌘	How optional elements are represented remains inconsistent and prone to error or misinterpretation. WSDL does not include attributes for optional elements, reducing fidelity with specifications and interoperability.

Clauses affected:	⌘	7, 8			
		Y	**N**		
Other specs affected:	⌘	**X**		Other core specifications	⌘ 29.199-01, 29.199-02, 29.199-03, 29.199-04, 29.199-05, 29.199-06, 29.199-07, 29.199-08, 29.199-9, 29.199-11, 29.199-12, 29.199-13, 29.199-14
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

Change in Clause 7

7 XML Schema data type definition

7.1 ConditionalForward structure

Information on handling of forwarding for specific calling numbers.

Element name	Element type	Optional	Description
CallingAddress	xsd:anyURI	No	Address that call is placed from
ForwardingAddress	xsd:anyURI	No	Address to forward call to
OnBusyAddress	xsd:anyURI	No	If line is busy at forwarding address, forward to this address
OnNoAnswerAddress	xsd:anyURI	No	If no answer at forwarding address, forward to this address

7.2 UnconditionalForward structure

Information for handling of forwarding unconditionally.

Element name	Element type	Optional	Description
ForwardingAddress	xsd:anyURI	No	Address to forward call to
OnBusyAddress	xsd:anyURI	No	If line is busy at forwarding address, forward to this address
OnNoAnswerAddress	xsd:anyURI	No	If no answer at forwarding address, forward to this address

7.3 InteractionContent enumeration

The following are the types of content that may be used for user interaction.

Enumeration	Description
Text	Text to be processed by a Text-To-Speech engine
VoiceXml	VoiceXML to be processed by a VoiceXML browser
Audio	Audio file to be played by an audio processor

7.4 TextInteraction structure

Information for processing by a text to speech engine.

Element name	Element type	Optional	Description
Text	xsd:string	No	Text to play through a Text-To-Speech engine
Language	xsd:string	No	Language of text

7.5 VoiceInteraction union

For a call that is to be handled by an interactive voice system, the information to provide to that system.

Element name	Element type	Description
UnionElement	InteractionContent	Type of content provided (one of the following)
TextInfo	TextInteraction	Announcement to play through a Text-To-Speech engine
VoiceXml	xsd:anyURI	Location of VoiceXML to use in a VoiceXML browser
Audio	xsd:anyURI	Location of audio content (WAV or MP3 file)

7.6 CallHandlingRules structure

Structure containing set of rules that are applied when the call is handled.

Element name	Element type	Optional	Description
AcceptList	xsd:anyURI [0..unbounded]	No	List of addresses to accept calls from
BlockList	xsd:anyURI [0..unbounded]	No	List of addresses to block calls from
ForwardList	ConditionalForward [0..unbounded]	No	List of conditional forwarding addresses and destinations
Forward	UnconditionalForward	No	Unconditional call forwarding address
VoiceInteractionContent	VoiceInteraction	No	Forward call to a user interaction system with information on content

7.7 SetRulesResult structure

Result of SetRulesRequest for each address.

Element name	Element type	Optional	Description
Address	xsd:anyURI	No	Address to be set
Successful	xsd:boolean	No	Successfully set rules or not
Error	common:ServiceError	Yes	Error message if unsuccessful

End of change in Clause 7

Change in Clause 8

8 Web Service interface definition

8.1 Interface: CallHandling

CallHandling provides a rule based processing capability that is accessible to Applications through a set of operations that allow definition of discrete rules.

8.1.1 Operation: SetRules

Set the call handling rules for an address (the destination for the call). If a set of rules is already in place for any of the **Address**, then this operation will replace the old rules with the set provided in this operation.

The **Address** may not specify a group. If a group is specified, a **PolicyException** will be returned.

8.1.1.1 Input message: SetRulesRequest

Part name	Part type	Optional	Description
Address	xsd:anyURI	No	Address to handle calls for
Rules	CallHandlingRules	No	Rules to apply for this address

8.1.1.2 Output message: SetRulesResponse

Part name	Part type	Optional	Description
None			

8.1.1.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.
- POL0006: Groups not allowed.

8.1.2 Operation: SetRulesForGroup

Set the call handling rules for multiple addresses (the destination for calls). If a set of rules is already in place for any of the **Addresses**, then this operation will replace the old rules with the set provided in this operation.

The **Addresses** may include groups, with members using the 'tel:' and 'sip:' URIs in the manner defined in 3GPP TS 29.119-1 [6]. Wildcards may not be used to specify addresses.

8.1.2.1 Input message: SetRulesForGroupRequest

Part name	Part type	Optional	Description
Addresses	xsd:anyURI [1~~0~~..unbounded]	No	Addresses to handle calls for
Rules	CallHandlingRules	No	Rules to apply for these addresses

8.1.2.2 Output message: SetRulesForGroupResponse

Part name	Part type	Optional	Description
Result	SetRulesResult [1~~0~~..unbounded]	No	Result of setup for each of addresses provided

8.1.2.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.
- SVC0004: No valid addresses.
- SVC0006: Invalid group.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.
- POL0006: Groups not allowed.
- POL0007: Nested groups not allowed.

8.1.3 Operation: GetRules

Get the call handling rules for an address (the destination for the call).

The **Address** may not specify a group. If a group is specified, a **PolicyException** will be returned.

8.1.3.1 Input message: GetRulesRequest

Part name	Part type	Optional	Description
Address	xsd:anyURI	No	Address to handle calls for

8.1.3.2 Output message: GetRulesResponse

Part name	Part type	Optional	Description
Rules	CallHandlingRules	No	Rules being applied for this address

8.1.3.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.
- POL0006: Groups not allowed.

8.1.4 Operation: ClearRules

Clear the call handling rules associated with the addresses specified. If no rules have been set for an address, this operation silently ignores the request, and does not return an error or fault message.

The **Addresses** may include groups, with members using the 'tel:' and 'sip:' URIs in the manner defined in 3GPP TS 29.199-1 [6]. Wildcards may not be used to specify addresses.

8.1.4.1 Input message: ClearRulesRequest

Part name	Part type	Optional	Description
Addresses	xsd:anyURI [1~~0~~..unbounded]	No	Addresses to clear call handling for

8.1.4.2 Output message: ClearRulesResponse

Part name	Part type	Optional	Description
None			

8.1.4.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

- SVC0006: Invalid group.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.
- POL0006: Groups not allowed.
- POL0007: Nested groups not allowed.

End of change in Clause 8

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Sep 2004	CN_25	NP-040360	--	--	Draft v100 submitted to TSG CN#25 for Approval.	1.0.0	6.0.0

Joint-Working-Group (Parlay, ETSI Project OSA, 3GPP CT5) **C5-050281**
Meeting #31, Osaka, JAPAN, 09-13 May 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **29.199-11** **CR** **0001** ⌘ **rev** **-** ⌘ Current version: **6.0.0** ⌘

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Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Optionals for Part 11
Source:	⌘	IBM (Joe McIntyre)
Work item code:	⌘	OSA3
Date:	⌘	07/05/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
Ph2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)
Rel-7 (Release 7)

Reason for change:	⌘	Presently readers must look in multiple places (descriptive text, field description and/or message part description) to determine if a field or message part is optional or not. This change provides a consistent manner to specify this information which will improve readability of current specifications and future input contributions. In addition, the corresponding WSDL is updated to represent this information (using minOccurs/maxOccurs attributes), which is required to correctly reflect specification intent and ensure interoperability.
Summary of change:	⌘	Add “Optional” column with “Yes” or “No” values to field types and message parts. Add minOccurs/maxOccurs attributes to WSDL for optional elements.
Consequences if not approved:	⌘	How optional elements are represented remains inconsistent and prone to error or misinterpretation. WSDL does not include attributes for optional elements, reducing fidelity with specifications and interoperability.

Clauses affected:	⌘	8				
		Y	**N**			
Other specs	⌘	**X**		Other core specifications	⌘	29.199-01, 29.199-02, 29.199-03, 29.199-04, 29.199-05, 29.199-06, 29.199-07, 29.199-08, 29.199-09, 29.199-10, 29.199-12, 29.199-13, 29.199-14
affected:			**X**	Test specifications		
			X	O&M Specifications		
Other comments:	⌘					

Change in Clause 8

8 Web Service interface definition

8.1 Interface: PlayAudio

The PlayAudio interface allows the playing of audio messages using different forms of audio content, and operations to monitor or cancel requests.

In all operations, the **Address** is restricted to the use of 'tel:' and 'sip:' URIs as specified in 3GPP TS 29.199-1 [6], and wildcards are not permitted in these URIs.

8.1.1 Operation: PlayTextMessage

The invocation of **PlayTextMessage** requests to set up a call to the user identified by **Address** and play a text identified by **Text**. The text will be read through a Text-to-Speech engine, according to the specified **Language**. The invocation returns as soon as the request is received by the system, i.e. the actual call is performed asynchronously. The **Correlator**, returned by the invocation, can be used to identify the request, e.g. to get information on the request status.

This operation is intended to play a message to a single terminal. The URI provided is for a single terminal, not a group URI. If a group URI is provided, a PolicyException will be returned to the application.

8.1.1.1 Input message: PlayTextMessageRequest

Part name	Part type	Optional	Description
Address	xsd:anyURI	No	Address to which message is to be played
Text	xsd:string	No	Text to process with a Text-To-Speech engine
Language	xsd:string	No	Language of text (ISO string)
Charging	common:ChargingInformation	Yes	Charge to apply for the playing of this message. If charging is not supported then a PolicyException (POL0008) will be returned.

8.1.1.2 Output message: PlayTextMessageResponse

Part name	Part type	Optional	Description
Correlator	xsd:string	No	Correlator for this message for subsequent interactions

8.1.1.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.
- POL0002: Privacy error.
- POL0006: Groups not allowed.
- POL0008: Charging not supported.

8.1.2 Operation: PlayAudioMessage

The invocation of **playAudioMessage** requests to set up a call to the user identified by **Address** and play an audio file located at **AudioUrl**. The invocation returns as soon as the request is received by the system, i.e. the actual call is performed asynchronously. The **Correlator**, returned by the invocation, can be used to identify the request, e.g. to get information on the request status.

This operation is intended to play a message to a single terminal. The URI provided is for a single terminal, not a group URI. If a group URI is provided, a PolicyException will be returned to the application.

8.1.2.1 Input message: PlayAudioMessageRequest

Part name	Part type	Optional	Description
Address	xsd:anyURI	No	Address to which message is to be played
AudioUrl	xsd:anyURI	No	Location of audio content to play
Charging	common:ChargingInformation	Yes	Charge to apply for the playing of this message. If charging is not supported then a PolicyException (POL0008) will be returned.

8.1.2.2 Output message: PlayAudioMessageResponse

Part name	Part type	Optional	Description
Correlator	xsd:string	No	Correlator for this message for subsequent interactions

8.1.2.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.
- POL0002: Privacy error.
- POL0006: Groups not allowed.
- POL0008: Charging not supported.

8.1.3 Operation: PlayVoiceXmlMessage

The invocation of **PlayVoiceXmlMessage** requests to set up a call to the user identified by **Address** and process VoiceXML content located at **VoiceXmlUrl**. The invocation returns as soon as the request is received by the system, i.e. the actual call is performed asynchronously. The **Correlator**, returned by the invocation, can be used to identify the request, e.g. to get information on the request status.

This operation is intended to play a message to a single terminal. The URI provided is for a single terminal, not a group URI. If a group URI is provided, a PolicyException will be returned to the application.

8.1.3.1 Input message: PlayVoiceXmlMessageRequest

Part name	Part type	Optional	Description
Address	xsd:anyURI	No	Address to which message is to be played
VoiceXmlUrl	xsd:anyURI	No	Location of VoiceXML content to process
Charging	common:ChargingInformation	Yes	Charge to apply for the playing of this message. If charging is not supported then a PolicyException (POL0008) will be returned.

8.1.3.2 Output message: PlayVoiceXMLMessageResponse

Part name	Part type	Optional	Description
Correlator	xsd:string	No	Correlator for this message for subsequent interactions

8.1.3.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.
- POL0002: Privacy error.
- POL0006: Groups not allowed.
- POL0008: Charging not supported.

8.1.4 Operation: GetMessageStatus

The invocation of **GetMessageStatus** retrieves the current status, **Result**, of a previous request identified by **Correlator**.

8.1.4.1 Input message: GetMessageStatusRequest

Part name	Part type	Optional	Description
Correlator	xsd:string	No	Correlator returned from play operation to check

8.1.4.2 Output message: GetMessageStatusResponse

Part name	Part type	Optional	Description
Result	MessageStatus	No	Current playing status

8.1.4.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.1.5 Operation: EndMessage

The invocation of **EndMessage** cancels/stops a previous request identified by **Correlator**. It returns a **Result**, with the status of the request at the moment of abort.

8.1.5.1 Input message: EndMessageRequest

Part name	Part type	Optional	Description
Correlator	xsd:string	No	Correlator returned from play operation to cancel

8.1.5.2 Output message: EndMessageResponse

Part name	Part type	Optional	Description
Result	MessageStatus	No	Status at the time the endMessage was acted on

8.1.5.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

End of change in Clause 8

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Sep 2004	CN_25	NP-040360	--	--	Draft v100 submitted to TSG CN#25 for Approval.	1.0.0	6.0.0

Joint-Working-Group (Parlay, ETSI Project OSA, 3GPP CT5) **C5-050282**
Meeting #31, Osaka, JAPAN, 09-13 May 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **29.199-12** **CR** **0001** ⌘ **rev** **-** ⌘ Current version: **6.0.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Optionals for Part 12
Source:	⌘	CT5 IBM (Joe McIntyre)
Work item code:	⌘	OSA3
Date:	⌘	07/05/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

Ph2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*
Rel-7	*(Release 7)*

Reason for change:	⌘	Presently readers must look in multiple places (descriptive text, field description and/or message part description) to determine if a field or message part is optional or not. This change provides a consistent manner to specify this information which will improve readability of current specifications and future input contributions. In addition, the corresponding WSDL is updated to represent this information (using minOccurs/maxOccurs attributes), which is required to correctly reflect specification intent and ensure interoperability.
Summary of change:	⌘	Add “Optional” column with “Yes” or “No” values to field types and message parts. Add minOccurs/maxOccurs attributes to WSDL for optional elements.
Consequences if not approved:	⌘	How optional elements are represented remains inconsistent and prone to error or misinterpretation. WSDL does not include attributes for optional elements, reducing fidelity with specifications and interoperability.

Clauses affected:	⌘	7.2, 7.3, 8			
		Y	**N**		
Other specs	⌘	**X**		Other core specifications	⌘ 29.199-01, 29.199-02, 29.199-03, 29.199-04, 29.199-05, 29.199-06, 29.199-07, 29.199-08, 29.199-09, 29.199-10, 29.199-11, 29.199-13, 29.199-14
affected:			**X**	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

Change in Clause 7.2

7.2 ConferenceInfo structure

Name	Type	Optional	Description
Status	ConferenceStatus	No	Status of the conference
StartTime	xsd:dateTime	No	The time at which the conference was created
Duration	xsd:int	No	The duration of the conference so far (in seconds)
Owner	xsd:anyURI	No	Conference owner
NumberOfParticipants	xsd:int	No	Current number of connected participants
MaximumNumberOfParticipants	xsd:int	No	Maximum number of participants
ConferenceIdentifier	xsd:string	No	Conference identifier
ConferenceDescription	xsd:string	No	Conference description

End of change in Clause 7.2

Change in Clause 7.3

7.3 ParticipantInfo structure

Name	Type	Optional	Description
Participant	xsd:anyURI	No	Participant identifier
CodecVideoIn	xsd:string	No	Codec Video IN
CodecVideoOut	xsd:string	No	Codec Video OUT
CodecAudioIn	xsd:string	No	Codec Audio IN
CodecAudioOut	xsd:string	No	Codec Audio OUT
StartTime	xsd:dateTime	No	Time this participant joined the conference
Status	ParticipantStatus	No	Status of participant

End of change in Clause 7.3

Change in Clause 8

8 Web Service interface definition

8.1 Interface: MultimediaConference

The MultimediaConference interface can be used by an application for creating a multimedia conference call and for dynamically managing the participants and the media involved in the call.

8.1.1 Operation: createConference

The invocation of **createConference** requests to create a multi-media conference with initially no participants connected. The reference to the new multimedia conference is returned in the output parameter.

The conference termination can be driven either by a user action or by the expiring of a maximum duration. In particular, three possible situations are considered. In the first scenario, the concept of the "conference owner" is used.

This user that has the control of the call and when the conference owner leaves the conference, all users are disconnected (such a user could be for instance the reference for the conference billing). In this scenario, the optional parameter **conferenceOwner** is present in the method call.

In the second scenario, the conference is terminated when the last participant abandons (in this case the parameter **conferenceOwner** is not present).

A third case is when the optional parameter **maximumDuration** is present: in this situation, when the maximum duration is reached, the conference is terminated.

The selection of the scenario depends on the presence of the optional parameters; if no optional parameter is present, the conference end condition is the disconnection of the last user in conference, if both are present, the conference is terminated when the duration expires (this case could happen if the information concerning the conference owner is needed for billing purposes).

The values **maximumDuration** and **maximumNumberOfParticipants** must not exceed the corresponding service policies otherwise a policy exception is raised.

8.1.1.1 Input message: createConferenceRequest

Part name	Part type	Optional	Description
ConferenceType	xsd:string	Yes	~~OPTIONAL.~~ Conference type, i.e. one of a list of operator-specific identifiers that indicates how the conference is rendered on the terminals
ConferenceDescription	xsd:string	No	A text describing the conference
Charging	common:ChargingInformation	Yes	~~OPTIONAL.~~ If present, defines the charge per unit of time consumed on the conference call. If the service does not support charging, a PolicyException (POL0008) will be returned.
MaximumDuration	xsd:int	Yes	~~OPTIONAL.~~ If present it represents the maximum duration of the multimedia conference in seconds. If this parameter is present, it represents the end condition of the conference.
MaximumNumberOfParticipants	xsd:int	No	Maximum number of participants allowed
ConferenceOwner	xsd:anyURI	Yes	~~OPTIONAL.~~ It is the address of the multimedia conference owner. If this parameter is present, and the maximumDuration is not present, the conference is terminated when this user disconnects, else this information can be used for billing or other purpose

8.1.1.2 Output message: createConferenceResponse

Part name	Part type	Optional	Description
ConferenceIdentifier	xsd:string	No	Conference identifier

8.1.1.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.
- POL0008: Charging not supported.
- POL0240: Too many participants.
- POL0242: Maximum duration exceeded.

8.1.2 Operation: getConferenceInfo

The invocation of **getConferenceInfo** requests the information concerning the current status of the multi-media conference call identified by **conferenceIdentifier**.

8.1.2.1 Input message: getConferenceInfoRequest

Part name	Part type	Optional	Description
ConferenceIdentifier	xsd:string	No	Conference identifier

8.1.2.2 Output message: getConferenceInfoResponse

Part name	Part type	Optional	Description
ConferenceInfo	ConferenceInfo	No	Status of the conference

8.1.2.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.1.3 Operation: endConference

The invocation of **endConference** requests to terminate the multi-media conference call identified by **conferenceIdentifier**.

8.1.3.1 Input message: endConferenceRequest

Part name	Part type	Optional	Description
ConferenceIdentifier	xsd:string	No	Conference identifier

8.1.3.2 Output message: endConferenceResponse

Part name	Part type	Optional	Description
None			

8.1.3.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.1.4 Operation: inviteParticipant

The invocation of **inviteParticipant** requests to add a new participant specified by **participant** to the multi-media conference call identified by **conferenceIdentifier**. The media used for the initial connection of the new participant depends on the conference type and the participant's supported media.

The operation will fail if the conference has already reached the maximum number of participants (as specified in the creation operation).

8.1.4.1 Input message: inviteParticipantRequest

Part name	Part type	Optional	Description
ConferenceIdentifier	xsd:string	No	Conference identifier
Participant	xsd:anyURI	No	New participant invited

8.1.4.2 Output message: inviteParticipantResponse

Part name	Part type	Optional	Description
None			

8.1.4.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.
- POL0240: Too many participants.

8.1.5 Operation: disconnectParticipant

The invocation of **disconnectParticipant** requests to disconnect the participant specified by **participant** from the multi-media conference call identified by **conferenceIdentifier**.

8.1.5.1 Input message: disconnectParticipantRequest

Part name	Part type	Optional	Description
ConferenceIdentifier	xsd:string	No	Conference identifier
Participant	xsd:anyURI	No	Participant

8.1.5.2 Output message: disconnectParticipantResponse

Part name	Part type	Optional	Description
None			

8.1.5.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.1.6 Operation: getParticipantInfo

The invocation of **getParticipantInfo** requests information concerning the current status of the participant specified by **participant**, in the multi-media conference call identified by **conferenceIdentifier**.

8.1.6.1 Input message: getParticipantInfoRequest

Part name	Part type	Optional	Description
ConferenceIdentifier	xsd:string	No	Conference identifier
Participant	xsd:anyURI	No	Participant

8.1.6.2 Output message: getParticipantInfoResponse

Part name	Part type	Optional	Description
ParticipantInfo	ParticipantInfo	No	Status of the participant

8.1.6.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.1.7 Operation: getParticipants

The invocation of **getParticipants** requests information concerning the current status of each participant of the multi-media conference call identified by **conferenceIdentifier**. The output includes participants already disconnected from the conference (if any).

8.1.7.1 Input message: getParticipantsRequest

Part name	Part type	Optional	Description
ConferenceIdentifier	xsd:string	No	Conference identifier

8.1.7.2 Output message: getParticipantsResponse

Part name	Part type	Optional	Description
Participants	ParticipantInfo [0..unbounded]	Yes	Array containing status information for each participant

8.1.7.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.1.8 Operation: addMediaForParticipant

The invocation of **addMediaForParticipant** requests to add a **media** stream to the media set used by **participant**. The operation is executed on a single participant connected to the multi-media conference call identified by **conferenceIdentifier**. The new media has to be compatible with the type of multimedia conference and the set of media supported by the participant terminal, otherwise the operation will fail.

8.1.8.1 Input message: addMediaForParticipantRequest

Part name	Part type	Optional	Description
ConferenceIdentifier	xsd:string	No	Conference identifier
Participant	xsd:anyURI	No	Participant
Media	Media	No	It identifies the new media stream the participant will receive/send.
MediaDirection	MediaDirection	No	In indicates the direction of the media stream to add (in, out, etc.)

8.1.8.2 Output message: addMediaForParticipantResponse

Part name	Part type	Optional	Description
None			

8.1.8.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.
- POL0241: Unavailable media.

8.1.9 Operation: deleteMediaForParticipant

The invocation of **deleteMediaForParticipant** requests to remove a **media** stream from the media set used by **participant**. The operation is executed on a single participant connected to the multi-media conference call identified by **conferenceIdentifier**.

8.1.9.1 Input message: deleteMediaForParticipantRequest

Part name	Part type	Optional	Description
ConferenceIdentifier	xsd:string	No	Conference identifier
Participant	xsd:anyURI	No	Participant
Media	Media	No	It identifies the media the user is not enabled to use any more.
MediaDirection	MediaDirection	No	In indicates the direction of the media stream to remove (in, out, etc.)

8.1.9.2 Output message: deleteMediaForParticipantResponse

Part name	Part type	Optional	Description
None			

8.1.9.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

End of change in Clause 8

Annex B (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Sep 2004	CN_25	NP-040360	--	--	Draft v100 submitted to TSG CN#25 for Approval.	1.0.0	6.0.0

Joint-Working-Group (Parlay, ETSI Project OSA, 3GPP CT5) **C5-050283**
Meeting #31, Osaka, JAPAN, 09-13 May 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **29.199-13** **CR** **0001** ⌘ **rev** **-** ⌘ Current version: **6.0.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Optionals for Part 13
Source:	⌘	CT5 IBM (Joe McIntyre)
Work item code:	⌘	OSA3
Date:	⌘	07/05/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
Ph2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)
Rel-7 (Release 7)

Reason for change:	⌘	Presently readers must look in multiple places (descriptive text, field description and/or message part description) to determine if a field or message part is optional or not. This change provides a consistent manner to specify this information which will improve readability of current specifications and future input contributions. In addition, the corresponding WSDL is updated to represent this information (using minOccurs/maxOccurs attributes), which is required to correctly reflect specification intent and ensure interoperability.
Summary of change:	⌘	Add “Optional” column with “Yes” or “No” values to field types and message parts. Add minOccurs/maxOccurs attributes to WSDL for optional elements.
Consequences if not approved:	⌘	How optional elements are represented remains inconsistent and prone to error or misinterpretation. WSDL does not include attributes for optional elements, reducing fidelity with specifications and interoperability.

Clauses affected:	⌘	7.1, 7.3, 8			
		Y	**N**		
Other specs affected:	⌘	**X**		Other core specifications	⌘ 29.199-01, 29.199-02, 29.199-03, 29.199-04, 29.199-05, 29.199-06, 29.199-07, 29.199-08, 29.199-09, 29.199-10, 29.199-11, 29.199-12, 29.199-14
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

Change in Clause 7.1

7.1 AccessPermissions structure

List of access permissions that may be assigned to a requester associated with a group.

Name	Type	Optional	Description
AdminPermission	xsd:boolean	No	Requester has admin permission for the group
AddPermission	xsd:boolean	No	Requester can add members to a group
DeletePermission	xsd:boolean	No	Requester can delete members from a group
QueryPermission	xsd:boolean	No	Requester can query members in a group

End of change in Clause 7.1

Change in Clause 7.3

7.3 SimpleAttribute structure

Attribute representing a name and an associated value.

Name	Type	Optional	Description
Name	xsd:string	No	Name of the attribute
Type	xsd:string	No	Type of the attribute. The value is always a string, but this provides information on the format of the value.
Value	xsd:string	No	Value of the attribute
Status	AttributeStatus	No	Status of the attribute

End of change in Clause 7.3

Change in Clause 8

8 Web Service interface definition

The Address List Management service consists of three interfaces:

- GroupManagement which manages creation and access to groups that hold the address lists.
- Group which manages the content of the address list.
- GroupMember which represents an address list entry and its associated properties.

Together these provide the interfaces to create and manage address lists, enabling these groups to be used by other services through this common capability.

8.1 Interface: GroupManagement

The GroupManagement interface provides the administration interface for creating, deleting, querying and managing access rights for groups. The format of the group name is specified in the Detailed Service Description (see clause 4).

8.1.1 Operation: createGroup

Create a new group. The requester provides the name for the group and the domain segment in which the group is to be stored. A domain segment is used, since the full domain will consist of the domain segment provided by the requester (e.g. 'sales.mycompany') plus a period separator ('.') per RFC 2396 [7] and the domain segment provided by the Service Provider (e.g. 'serviceprovider.com').

To avoid name conflicts, since group URIs must be unique, an automatic naming capability is provided which will append a suffix to the name provided if the name is already used within the domain. If the AutoName is set to 'true' and the fully qualified name is not unique, then the name will have a suffix added and the unique name will be provided in the result. For example, if the group 'sales@mycompany.serviceprovider.com' was already defined, a suffix would be added and the result could be 'sales1@mycompany.serviceprovider.com'. If the AutoName is set to 'false', then a PolicyException is thrown if the group URI is not unique.

8.1.1.1 Input message: createGroupRequest

Part name	Part type	Optional	Description
Name	xsd:string	No	Name of group to be included in group name
Domain	xsd:string	No	Domain segment to be contained within the domain provided by the Service Provider. May be hierarchical using period separators (see RFC 2396 [7])
AutoName	xsd:boolean	No	If false, name must be unique or it will not be created. If true, a suffix will be added to the name if it is not unique.

8.1.1.2 Output message: createGroupResponse

Part name	Part type	Optional	Description
Result	xsd:anyURI	No	Fully qualified group name

8.1.1.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.
- POL0212: Group name too long.
- POL0213: Group already exists.

8.1.2 Operation: deleteGroup

Delete a group.

8.1.2.1 Input message: deleteGroupRequest

Part name	Part type	Optional	Description
Group	xsd:anyURI	No	Name of group to delete

8.1.2.2 Output message: deleteGroupResponse

Part name	Part type	Optional	Description
None			

8.1.2.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.1.3 Operation: queryGroups

Group information can be retrieved from the network, with two types of search, one that retrieves groups only from a single sub-domain and one that returns groups from the sub-domain and its sub-domains.

An example demonstrates the two search types. The following example data is used:

- Dept123@region1.sales.mycompany.serviceprovider.com
- Dept245@region2.sales.mycompany.serviceprovider.com
- Dept348@sales.mycompany.serviceprovider.com
- Dept367@sales.mycompany.serviceprovider.com
- Dept875@finance.mycompany.serviceprovider.com

For a search using the search domain 'sales.mycompany', with the hierarchy set to 'false', the result will contain:

- Dept348@sales.mycompany.serviceprovider.com
- Dept367@sales.mycompany.serviceprovider.com
- If the same search domain 'sales.mycompany' is used, but the hierarchy set to 'true', the result will contain,
- Dept123@region1.sales.mycompany.serviceprovider.com
- Dept245@region2.sales.mycompany.serviceprovider.com
- Dept348@sales.mycompany.serviceprovider.com
- Dept367@sales.mycompany.serviceprovider.com

8.1.3.1 Input message: queryGroupsRequest

Part name	Part type	Optional	Description
SearchDomain	xsd:string	No	Sub-domain to retrieve groups from
Hierarchy	xsd:boolean	No	Follow hierarchy under search name.

8.1.3.2 Output message: queryGroupsResponse

Part name	Part type	Optional	Description
Result	xsd:anyURI [0..unbounded]	Yes	Array of items matching search criteria.

8.1.3.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.1.4 Operation: setAccess

Access to manage the elements within a group may be provided independently from the access to manage the group itself. This operation enables the group administrator to specify the requester and the operations the requester is permitted to perform through the Group interface.

The access rights are absolute, if a requester has 'query' access currently and 'add' access is to be added, then the request requires both 'add' and 'query' rights to be set to 'true'. Likewise, any right that is set to 'false' will be revoked.

8.1.4.1 Input message: setAccessRequest

Part name	Part type	Optional	Description
Group	xsd:anyURI	No	Group to grant access to
Requester	xsd:string	No	Requester to grant access to
AdminPermission	xsd:Boolean	No	Permission to manage group
AddPermission	xsd:Boolean	No	Permission to add members to the group
DeletePermission	xsd:Boolean	No	Permission to delete members from the group
QueryPermission	xsd:Boolean	No	Permission to query members in the group

8.1.4.2 Output message: setAccessResponse

Part name	Part type	Optional	Description
None			

8.1.4.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.1.5 Operation: queryAccess

Query the access permissions for a requester on a group.

8.1.5.1 Input message: queryAccessRequest

Part name	Part type	Optional	Description
Group	xsd:anyURI	No	Group to which permissions are to be granted.
Requester	xsd:string	No	Requester to retrieve access permissions for.

8.1.5.2 Output message: queryAccessResponse

Part name	Part type	Optional	Description
Permissions	AccessPermissions	No	List of permissions that a requester has.

8.1.5.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.2 Interface: Group

The Group interface provides the administration interface for creating, deleting, querying members within a group.

8.2.1 Operation: addMember

Add a member to a group. If the new member is a group, and if nested group support is provided, this will add the group URI as a reference to the list of members (it will not expand the contents of the group within this group). A group may not be added recursively, an attempt to do so will result in a ServiceException.

To add a group as a member of a group, the requester must have query permission on the group to be added.

8.2.1.1 Input message: addMemberRequest

Part name	Part type	Optional	Description
Group	xsd:anyURI	No	URI of group to which a member is to be added.
Member	xsd:anyURI	No	Member to add to the group.

8.2.1.2 Output message: addMemberResponse

Part name	Part type	Optional	Description
None			

8.2.1.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.
- POL0210: Too many members in group.
- POL0211: Subgroups not allowed.

8.2.2 Operation: addMembers

Add an array of members to a group. If nested group support is provided, this will add any group URIs, as references, to the list of members (it will not expand the contents of any groups within this group). No group may be added recursively, an attempt to do so will result in a ServiceException, and none of the members will be added to the group.

To add a group as a member of a group, the requester must have query permission on the group to be added.

8.2.2.1 Input message: addMembersRequest

Part name	Part type	Optional	Description
Group	xsd:anyURI	No	URI of group to which a member is added.
Members	xsd:anyURI [1~~0~~..unbounded]	No	Member to add to the group.

8.2.2.2 Output message: addMembersResponse

Part name	Part type	Optional	Description
None			

8.2.2.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.
- POL0210: Too many members in group.
- POL0211: Subgroups not allowed.

8.2.3 Operation: deleteMember

Delete a member from a group. The member may only be removed from this group. If nested groups are supported, the member will not be removed from any nested group. Removal of a group URI will remove that group URI reference from this group, is will not delete the group.

8.2.3.1 Input message: deleteMemberRequest

Part name	Part type	Optional	Description
Group	xsd:anyURI	No	URI of group.
Member	xsd:anyURI	No	Member to delete from the group.

8.2.3.2 Output message: deleteMemberResponse

Part name	Part type	Optional	Description
None		No	

8.2.3.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.2.4 Operation: deleteMembers

Delete an array of members from a group. The members may only be removed from this group. If nested groups are supported, the members will not be removed from any nested group. Removal of a group URI will remove that group URI reference from this group, is will not delete the group. If the array contains URIs that are not in the group, they will be ignored and no fault will be generated.

8.2.4.1 Input message: deleteMembersRequest

Part name	Part type	Optional	Description
Group	xsd:anyURI	No	URI of group.
Members	xsd:anyURI [~~0~~1..unbounded]	No	Member to delete from the group.

8.2.4.2 Output message: deleteMembersResponse

Part name	Part type	Optional	Description
None			

8.2.4.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.2.5 Operation: queryMembers

Get the list of members contained within a group.

If nested groups are supported, then the member list may contain group URIs as members. Therefore, two manners are supported for retrieving the list of members - with members resolved and without.

- If ResolveGroups is 'true', then the exclusive union of all the members contained within the group, and any nested subgroups, is the result (exclusive union means that after retrieving all members, duplicate members are removed).
- If ResolveGroup is 'false', then the group members are returned including group URIs as members of the group. If members within nested groups are required, subsequent calls to this operation with those groups may be used to retrieve those members.

If nested groups are not supported, the value of ResolveGroups is ignored.

8.2.5.1 Input message: queryMembersRequest

Part name	Part type	Optional	Description
Group	xsd:anyURI	No	URI of group.
ResolveGroups	xsd:boolean	No	If true, return set of members after resolving groups (including subgroups). If false, return members including group references.

8.2.5.2 Output message: queryMembersResponse

Part name	Part type	Optional	Description
Members	xsd:anyURI [0..unbounded]	Yes	Members of group.

8.2.5.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.2.6 Operation: addGroupAttribute

Groups may have attributes associated with the group. To avoid conflicts, attribute names that start with Group are reserved for use as defined within the present document:

- Group.Description.
- Group.ExpiryDate.

Attributes may be added or updated by those with admin or add permission on the specified group.

8.2.6.1 Input message: addGroupAttributeRequest

Part name	Part type	Optional	Description
Group	xsd:anyURI	No	Group to set attribute for
Value	SimpleAttribute	No	Attribute to add, or update

8.2.6.2 Output message: addGroupAttributeResponse

Part name	Part type	Optional	Description
None			

8.2.6.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.2.7 Operation: deleteGroupAttribute

Groups may have attributes removed by those with admin or delete permission on the specified group.

8.2.7.1 Input message: deleteGroupAttributeRequest

Part name	Part type	Optional	Description
Group	xsd:anyURI	No	Group to set attribute for
AttributeName	xsd:string	No	Name of attribute to delete

8.2.7.2 Output message: deleteGroupAttributeResponse

Part name	Part type	Optional	Description
None			

8.2.7.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.2.8 Operation: queryGroupAttributes

Query the attributes for a group by those with admin or read permission on the specified group.

8.2.8.1 Input message: queryGroupAttributesRequest

Part name	Part type	Optional	Description
Group	xsd:anyURI	No	Group to get attributes for.

8.2.8.2 Output message: queryGroupAttributesResponse

Part name	Part type	Optional	Description
Result	SimpleAttribute [0..unbounded]	Yes	Group attributes.

8.2.8.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.2.9 Operation: addGroupMemberAttribute

Group members may have attributes that are within the context of a group in which they belong.

Group member attributes may be added or updated by those with admin or add permission on the specified group.

8.2.9.1 Input message: addGroupMemberAttributeRequest

Part name	Part type	Optional	Description
Group	xsd:anyURI	No	Group to set attribute for.
Member	xsd:anyURI	No	Member to set attribute for
Value	SimpleAttribute	No	Attribute to add, or update

8.2.9.2 Output message: addGroupMemberAttributeResponse

Part name	Part type	Optional	Description
None			

8.2.9.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.2.10 Operation: deleteGroupMemberAttribute

Group members may have attributes removed by those with admin or delete permission on the specified group.

8.2.10.1 Input message: deleteGroupMemberAttributeRequest

Part name	Part type	Optional	Description
Group	xsd:anyURI	No	Group to delete attribute from
Member	xsd:anyURI	No	Member to delete attribute from
AttributeName	xsd:string	No	Name of attribute to remove

8.2.10.2 Output message: deleteGroupMemberAttributeResponse

Part name	Part type	Optional	Description
None			

8.2.10.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.2.11 Operation: queryGroupMemberAttributes

Query the attributes for a group member by those with admin or read permission on the specified group.

8.2.11.1 Input message: queryGroupMemberAttributesRequest

Part name	Part type	Optional	Description
Group	xsd:anyURI	No	Group to get attributes for.
Member	xsd:anyURI	No	Member to set attribute for

8.2.11.2 Output message: queryGroupMemberAttributesResponse

Part name	Part type	Optional	Description
Result	SimpleAttribute [0..unbounded]	Yes	Group attributes.

8.2.11.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.3 Interface: Member

The Member interface provides access to information related to a particular entity.

8.3.1 Operation: addMemberAttribute

Add member attribute. If an attribute with this name exists, its value will be replaced with the value provided in this operation.

8.3.1.1 Input message :addMemberAttributeRequest

Part name	Part type	Optional	Description
Member	xsd:anyURI	No	Member to add attribute to
Data	SimpleAttribute	No	Attribute to add to member

8.3.1.2 Output message: addMemberAttributeResponse

Part name	Part type	Optional	Description
None			

8.3.1.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.3.2 Operation: queryMemberAttributes

Query attributes of a member. If any attributes requested do not exist, they will not be included in the result.

8.3.2.1 Input message :queryMemberAttributesRequest

Part name	Part type	Optional	Description
Member	xsd:anyURI	No	Member to query attributes for
AttributeNames	xsd:string [1~~0~~..unbounded]	No	List of attribute names to retrieve

8.3.2.2 Output message: queryMemberAttributesResponse

Part name	Part type	Optional	Description
Result	SimpleAttribute [0..unbounded]	Yes	List of attributes

8.3.2.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.3.3 Operation: deleteMemberAttribute

Delete attribute from a member. If the attribute specified does not exist, it will be ignored.

8.3.3.1 Input message :deleteMemberAttributeRequest

Part name	Part type	Optional	Description
Member	xsd:anyURI	No	Member to remove attributes from
AttributeName	xsd:string	No	List of attribute names to delete

8.3.3.2 Output message: deleteMemberAttributeResponse

Part name	Part type	Optional	Description
None			

8.3.3.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

End of change in Clause 8

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Sep 2004	CN_25	NP-040360	--	--	Draft v100 submitted to TSG CN#25 for Approval.	1.0.0	6.0.0

Joint-Working-Group (Parlay, ETSI Project OSA, 3GPP CT5) **C5-050284**
Meeting #31, Osaka, JAPAN, 09-13 May 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **29.199-14** **CR** **0004** ⌘ **rev** **-** ⌘ Current version: **6.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Optionals for Part 14
Source:	⌘	CT5 IBM (Joe McIntyre)
Work item code:	⌘	OSA3
Date:	⌘	07/05/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

Ph2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*
Rel-7	*(Release 7)*

Reason for change:	⌘	Presently readers must look in multiple places (descriptive text, field description and/or message part description) to determine if a field or message part is optional or not. This change provides a consistent manner to specify this information which will improve readability of current specifications and future input contributions. In addition, the corresponding WSDL is updated to represent this information (using minOccurs/maxOccurs attributes), which is required to correctly reflect specification intent and ensure interoperability.
Summary of change:	⌘	Add “Optional” column with “Yes” or “No” values to field types and message parts. Add minOccurs/maxOccurs attributes to WSDL for optional elements.
Consequences if not approved:	⌘	How optional elements are represented remains inconsistent and prone to error or misinterpretation. WSDL does not include attributes for optional elements, reducing fidelity with specifications and interoperability.

Clauses affected:	⌘	7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 8			
		Y	**N**		
Other specs affected:	⌘	**X**		Other core specifications	⌘ 29.199-01, 29.199-02, 29.199-03, 29.199-04, 29.199-05, 29.199-06, 29.199-07, 29.199-08, 29.199-09, 29.199-10, 29.199-11, 29.199-12, 29.199-13
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

Change in Clause 7.7

7.7 CommunicationMeans structure

This structure describes on way of reaching the presentity.

Element name	Element type	Optional	Description
Priority	xsd:float	No	The priority of this communication means. Between 0 and 1, the latter meaning the highest priority.
Contact	xsd:anyURI	No	The presentity's contact address for this communication means.
Type	CommunicationMeansType	No	The type of this communication means.

End of change in Clause 7.7

Change in Clause 7.8

7.8 CommunicationValue structure

This structure describes the various ways of reaching a presentity.

Element name	Element type	Optional	Description
Means	CommunicationMeans [0..unbounded]	Yes	The different ways of reaching the presentity.

End of change in Clause 7.8

Change in Clause 7.9

7.9 OtherValue structure

This structure can be used for storing arbitrary data about a presentity.

Element name	Element type	Optional	Description
Name	xsd:string	No	Description of the content.
Value	xsd:string	No	Attribute content.

End of change in Clause 7.9

Change in Clause 7.10

7.10 PresenceAttribute structure

Presence data published by a presentity and retrieved by watchers.

Element name	Element type	Optional	Description
LastChange	xsd:dateTime	No	The time and date when the attribute was changed last.
Note	xsd:string	Yes	An explanatory note. ~~Optional.~~
Type	PresenceAttributeType	No	Determines the type of the value field.
Value	One of the six value types; depends on field "type"	No	The actual value of the attribute.

This data structure is split into two types in the XSD file: A `PresenceAttribute` contains an `AttributeTypeAndValue`.

End of change in Clause 7.10

Change in Clause 7.11

7.11 SubscriptionRequest structure

This structure is returned to the presentity by the PAM Web Service and contains the requesting watcher and the attributes he wants to subscribe.

Element name	Element type	Optional	Description
Watcher	xsd:anyURI	No	The watcher who wants to gain access to data.
Attributes	PresenceAttributeType [0..unbounded]	No	The attributes the watcher wants to see.
Application	xsd:string	No	The name of the application running on behalf of the watcher. Note that this field has solely informative purposes, access rights management is based on watcher id only.

End of change in Clause 7.11

Change in Clause 7.12

7.12 PresencePermission structure

The answer from the service to the watcher in the message getSubscriptionStatusResponse.

Element name	Element type	Optional	Description
Attribute	PresenceAttributeType	No	The name of the attribute the watcher wanted to subscribe
Decision	xsd:Boolean	No	Whether the presentity accepted the subscription. If no, any further fields should be ignored.

End of change in Clause 7.12

Change in Clause 8

8 Web Service interface definition

This API is separated into three interfaces:

- PresenceConsumer interface: watcher methods for requesting and subscribing presence data.

- PresenceNotification interface: is the watcher notification interface for presence events.
- PresenceSupplier interface: presentity methods for supplying presence data and managing subscriptions.

8.1 Interface: PresenceConsumer

Client role: watcher.

This set of methods is used by the watcher to obtain presence data. After the subscription to presence data, the watcher can select between a polling mode or a notification mode in order to receive presence data.

8.1.1 Operation: subscribePresence

We assume that the watcher has been previously authenticated, so that his identity is known and can be associated with the subscription at the server.

The presentity is contacted and requested to authorize the watcher. As this process generally involves user interaction there cannot be an immediate response. The watcher is notified with `notifySubscription()`. If the presentity is a group, every member of the group will be contacted for authorization. The watcher will get one notification for each member.

Only after the subscription is completed (and the presentity has allowed access to attributes) may the watcher will get information when he uses `getUserPresence()` or `startPresenceNotification()`.

Note that the SimpleReference contains the correlator string used in subsequent messages to the notification interface.

At this interface level, the subscription has no expiration, although at can be ended from the presentity of the underlying layers (see subscriptionEnded method).

8.1.1.1 Input message: subscribePresenceRequest

Part name	Part type	Optional	Description
Presentity	xsd:anyURI	No	A presentity or a group of presentities whose attributes the watcher wants to monitor.
Attributes	PresenceAttributeType [0..unbounded]	Yes	The attributes the watcher wants to access. (the same for all the group members). An empty array means subscription of all attributes.
Application	xsd:string	No	Describes the application the watcher needs the data for.
Reference	common:SimpleReference	No	The notification interface.

8.1.1.2 Output message: subscribePresenceResponse

Part name	Part type	Optional	Description
None			

8.1.1.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.
- SVC0004: No valid addresses - if the presentity address does not exist.

PolicyException from 3GPP TS 29.199-1 [6]:.

- POL0006: Groups not allowed.
- POL0007: Nested groups not allowed.

8.1.2 Operation: getUserPresence

Returns the aggregated presence data of a presentity. Only the attributes which the watcher is entitled to see will be returned. This method does not support group identities.

Before getting these attributes, the watcher has to subscribe to them (see above). The presentity needs not be informed of the access, as he has already consented when the watcher called `requestSubscription()`.

8.1.2.1 Input message: getUserPresenceRequest

Part name	Part type	Optional	Description
Presentity	xsd:anyURI	No	The presentity whose data the watcher wants to see.
Attributes	PresenceAttributeType [0..unbounded]	Yes	The attributes the watcher wants to see. An empty array means all attributes.

8.1.2.2 Output message: getUserPresenceResponse

Part name	Part type	Optional	Description
Result	PresenceAttribute [0..unbounded]	Yes	The actual presence data.

8.1.2.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.
- SVC0004: No valid addresses - if the presentity address does not exist.

PolicyException from 3GPP TS 29.199-1 [6]. The presentity has the possibility to cancel or block a subscription by manipulating the policy rules. The exception informs the watcher about this status change.

- POL0002: Privacy error - if the watcher is not subscribed to the requested data.
- POL0006: Groups not allowed.

8.1.3 Operation: startPresenceNotification

The notification pattern with correlation is used in order to be able to correlate the notification events with the request. The attributes represent a subset of the attributes subscribed and can be used as filter.

The watcher sets a notification trigger on certain user presence attribute changes. If the list of attributes is empty, the watcher wants to be notified on all subscribed attributes.

In case the presentity is a group the watcher will receive notifications for every single member of the group. The watcher will only get notifications for those attributes and presentities he subscribed successfully prior to the call. The service will return a list of presentities where the notifications could not be set up.

The presentity needs not be informed of the access, as he has already consented when the watcher called `requestSubscription()`.

Note that the SimpleReference contains the correlator string used in subsequent messages to the notification interface.

8.1.3.1 Input message: startPresenceNotificationRequest

Part name	Part type	Optional	Description
Presentity	xsd:anyURI	No	The presentity or group whose attributes the watcher wants to monitor.
Attributes	PresenceAttributeType [0..unbounded]	Yes	The attributes the watcher wants to see.
Reference	common:SimpleReference	No	The notification interface
Frequency	common:TimeMetric	No	Maximum frequency of notifications (can also be considered minimum time between notifications). In case of a group subscription the service must make sure this frequency is not violated by notifications for various members of the group, especially in combination with `checkImmediate`.
Duration	common:TimeMetric	Yes	Length of time notifications occur for, ~~null~~ do not specify to use default notification time defined by service policy.
Count	xsd:int	Yes	Maximum number of notifications, ~~zero if~~do not specify for no maximum
CheckImmediate	xsd:boolean	No	Whether to check status immediately after establishing notification.

8.1.3.2 Output message: startPresenceNotificationResponse

Part name	Part type	Optional	Description
Presentities	xsd:anyURI [0..unbounded]	Yes	The presentities whose attributes the watcher did not subscribe. Empty if all went fine.

8.1.3.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.
- SVC0004: No valid addresses - if the presentity URI does not exist.
- SVC0005: Duplicate correlator.

PolicyException from 3GPP TS 29.199-1 [6]. The presentity has the possibility to cancel or block a subscription by manipulating the policy rules. The exception informs the watcher about this status change.

- POL0001: Policy error.
- POL0004: Unlimited notifications not supported.
- POL0005: Too many notifications requested.
- POL0006: Groups not allowed.
- POL0007: Nested groups not allowed.

8.1.4 Operation: endPresenceNotification

Indicates that the watcher does not want further notifications for a specific notification request (identified by the correlator). Note that the subscription to presence data stays active; the caller of this method remains a watcher and can still use getUserPresence() or reactivate the notifications.

8.1.4.1 Input message: endPresenceNotificationsRequest

Part name	Part type	Optional	Description
Correlator	xsd:string	No	The notification the watcher wants to cancel.

8.1.4.2 Output message: endPresenceNotificationResponse

Part name	Part type	Optional	Description
None			

8.1.4.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.2 Interface: PresenceNotification

This client callback interface is used by the presence consumer interface to send notifications.

8.2.1 Operation: statusChanged

The asynchronous operation is called by the Web Service when an attribute for which notifications were requested changes.

8.2.1.1 Input message: statusChangedRequest

Part name	Part type	Optional	Description
Correlator	xsd:string	No	Identifies the notification request
Presentity	xsd:anyURI	No	The presentity whose presence status has changed
ChangedAttributes	PresenceAttribute [1~~0~~..unbounded]	No	The new presence data

8.2.1.2 Output message: statusChangedResponse

Part name	Part type	Optional	Description
None			

8.2.1.3 Referenced faults

None.

8.2.2 Operation: statusEnd

The notifications have ended for this correlator. This message will be delivered when the duration or count for notifications have been completed. This message will not be delivered in the case of an error ending the notifications or deliberate ending of the notifications (using endNotification operation).

8.2.2.1 Input message: statusEndRequest

Part name	Part type	Optional	Description
Correlator	xsd:string	No	Correlator provided in request to set up this notification

8.2.2.2 Output message: statusEndResponse

Part name	Part type	Optional	Description
None			

8.2.2.3 Referenced faults

None.

8.2.3 Operation: notifySubscription

This asynchronous method notifies the watcher that the server or the presentity handled the pending subscription.

8.2.3.1 Input message: notifySubscriptionRequestt

Part name	Part type	Optional	Description
Presentity	xsd:anyURI	No	The presentity whose attributes the watcher wants to monitor
Decisions	PresencePermission [0..unbounded]	Yes	Denote the attributes the server/presentity accepted to expose

8.2.3.2 Output message: notifySubscriptionResponse

Part name	Part type	Optional	Description
None			

8.2.4 Operation: subscriptionEnded

This asynchronous operation is called by the Web Service to notify the watcher (application) that the subscription has terminated. Typical reasons are a timeout of the underlying SIP soft state subscription (in accordance with [14] and [9]) or the decision of the presentity to block further presence information to that watcher. Since the subscription request has no expiration parameters, the service implementation may provide an inactivity timer that also triggers the subscriptionEnded message.

8.2.4.1 Input message: subscriptionEndedRequest

Part name	Part type	Optional	Description
Presentity	xsd:anyURI	No	The presentity to which the subscription has terminated
Reason	xsd:string	No	Timeout, Blocked

8.2.4.2 Output message: subscriptionEndedResponse

Part name	Part type	Optional	Description
None			

8.3 Interface: PresenceSupplier

These methods are used by the presentity to supply presence data and manage access to the data by its watchers. We assume that the presentity has been previously authenticated, so that his Identity is known.

8.3.1 Operation: publish

The presentity publishes data about herself. This data will then be filtered by the system and forwarded to the watchers who have ordered notifications.

8.3.1.1 Input message: publishRequest

Part name	Part type	Optional	Description
Presence	PresenceAttribute [0..unbounded]	Yes	The presence attributes the devices of the presentity supports

8.3.1.2 Output message: publishResponse

Part name	Part type	Optional	Description
None			

8.3.1.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.3.2 Operation: getOpenSubscriptions

Called periodically by the presentity to see if any watchers wants to subscribe to presence data. The client will answer open requests with `updateSubscriptionAuthorization()`.

8.3.2.1 Input message: getOpenSubscriptionsRequest

Part name	Part type	Optional	Description
None			

8.3.2.2 Output message: getOpenSubscriptionsResponse

Part name	Part type	Optional	Description
OpenRequests	SubscriptionRequest [0..unbounded]	Yes	Any open requests

8.3.2.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.3.3 Operation: updateSubscriptionAuthorization

The presentity answers with this operation to watcher subscriptions for which no authorization policy exists. The answer consists of the attribute and the watcher involved and the permissions for each attribute. Subscription requests that are not answered are assumed pending.

The operation can be used by the presentity to change anytime the authorization for a certain watcher or group to monitor one or several attributes.

If the watcher did not try to subscribe the attribute - i.e. there is not pending subscription from this watcher to an attribute in the decisions array, a PresenceException will be raised and the entire authorization request ignored.

8.3.3.1 Input message: updateSubscriptionAuthorizationRequest

Part name	Part type	Optional	Description
Watcher	xsd:anyURI	No	watcher or group of watchers
Decisions	PresencePermission [1~~0~~..unbounded]	No	The answers to open requests

8.3.3.2 Output message updateSubscriptionAuthorizationResponse

Part name	Part type	Optional	Description
None			

8.3.3.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.
- SVC0004: No valid addresses.
- SVC0220: NoSubscriptionRequest.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.3.4 Operation: getMyWatchers

Returns an array of watching identities that are subscribed to the presentity's attributes. They are not necessarily users of the notification system, the mere fact that they are allowed to see the presentity's attributes is enough to be on this list.

8.3.4.1 Input message: getMyWatchersRequest

Part name	Part type	Optional	Description
None			

8.3.4.2 Output message: getMyWatchersResponse

Part name	Part type	Optional	Description
Result	xsd:anyURI [0..unbounded]	Yes	The list of identities who currently have access to the presentity's attributes.

8.3.4.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.3.5 Operation: getSubscribedAttributes

Returns an array of attributes that a specific watcher has subscribed.

8.3.5.1 Input message: getSubscribedAttributesRequest

Part name	Part type	Optional	Description
Watcher	xsd:anyURI	No	The watcher whose subscriptions the presentity wants to know

8.3.5.2 Output message: getSubscribedAttributesResponse

Part name	Part type	Optional	Description
Result	PresenceAttributeType [0..unbounded]	Yes	The attributes the watcher is subscribed to.

8.3.5.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0004: No valid addresses.
- SVC0221: Not a watcher - if the URI in the field watcher is not a watcher of the presentity.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

8.3.6 Operation: blockSubscription

With this operation the presentity can block entirely the flow of presence information to a certain subscribed watcher by cancelling the subscription. The watcher will be notified with an subscriptionEnded() message.

8.3.6.1 Input message: blockSubscriptionRequest

Part name	Part type	Optional	Description
Watcher	xsd:anyURI	No	The watcher whose subscriptions the presentity wants to cancel

8.3.6.2 Output message: blockSubscriptionResponse

Part name	Part type	Optional	Description
None			

8.3.6.3 Referenced faults

ServiceException from 3GPP TS 29.199-1 [6]:

- SVC0001: Service error.
- SVC0002: Invalid input value.
- SVC0004: No valid addresses.
- SVC0221: Not a watcher - if the URI in the field watcher is not a watcher of the presentity.

PolicyException from 3GPP TS 29.199-1 [6]:

- POL0001: Policy error.

End of change in Clause 8

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Sep 2004	CN_25	NP-040360	--	--	Draft v100 submitted to TSG CN#25 for Approval.	1.0.0	6.0.0
Dec 2004	CN_26	NP-040487	001	--	Correct the Presence WSDL source code	6.0.0	6.1.0